

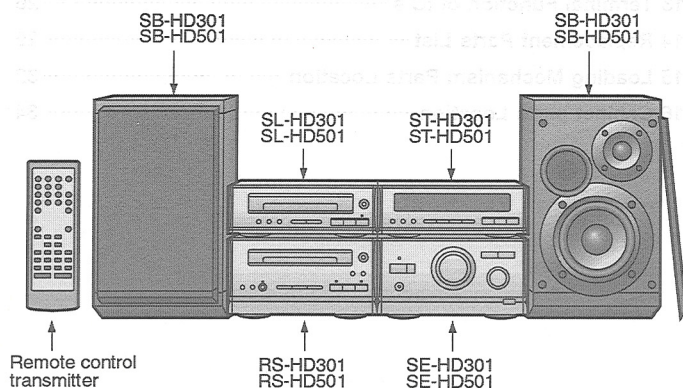
Service Manual

Compact Disc Player



MASH※
multi-stagenoiseshaping

※ MASH is a trademark of NTT.



SL-HD301 SL-HD501

Color

(N).....Gold Type

Area

E.....Europe, Asia Latin America, Middle Near East,
Africa, Oceania, East Europe and Russia.

System:SC-HD301

SC-HD501

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

Note:

Refer to the service manual for Model No. SE-HD301/501(ORDER NO.AD 9902013C2 and AD9902014C2) for information on "ACCESSORIES", "INSTALLATION", "CONNECTIONS" and "PACKAGING".

RAE0152Z Mechanism Series

Specifications

■ Audio

DA converter:1 bit 2 DAC MASH※

Digital output terminal:Optical×1

■ Pickup

Wavelength:780nm

■ Format

Sampling frequency:44.1kHz

■ General

Dimensions (WxHxD):

(SL-HD301)186 x 67 x 229 mm

(SL-HD501)196 x 67 x 229 mm

Weight :

1.2 kg

Power Supply:

DC13V/10V

Power Consumption:

10W

Notes:

- 1.Design and specifications are subject to change without notice.
- 2.Dimensions and weight are approximate.

■ System

SC-HD301:

Tuner:ST-HD301, Compact Disc Player:SL-HD301, Amplifier:SE-HD301, Cassette Deck:RS-HD301, Speakers:SB-HD301 (Made in PAES.)

SC-HD501:

Tuner:ST-HD501, Compact Disc Player:SL-HD501, Amplifier:SE-HD501, Cassette Deck:RS-HD501, Speakers:SB-HD501 (Made in PAES.)

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

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1 Befor Repair

This equipment (SL-HD301/501), which is a component of this system, is supplied with power from the amplifier (SE-HD301/501) through the tuner (ST-HD301/501). When repairing this equipment or checking operation of the system, be sure to connect the amplifier and tuner with it.

2 Precaution of Laser Diode

CAUTION:

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.

Wave length: 780 nm

Maximum output radiation power from pickup: 100 μ W/VDE

Laser radiation from the pickup lens is safety level, but be sure the followings:

1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

ACHTUNG:

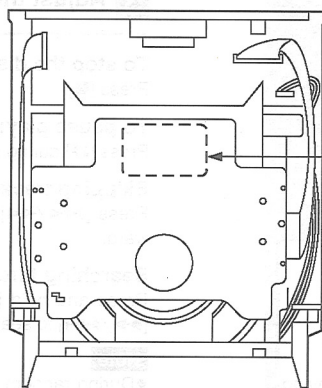
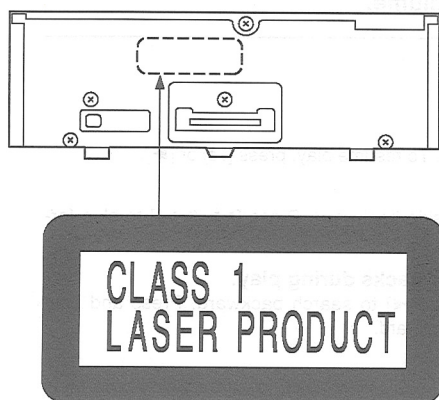
Dieses Produkt enthält eine Lasereinheit. Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Lasereinheit abgestrahlt.

Wellenlänge: 780 nm

Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE

Die Strahlung der Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Lasereinheit gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinie blicken.
4. Nicht über längere Zeit in die Fokussierlinie blicken.



DANGER	INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. NR SIKKERHEDSÅBRYDERE ER UDE AF FUNKTION. UNDG UDSTRITTELSE FOR STRÅLING.
VARO!	AVATTIÄSSÄ JA SUOJALUKITUS OHITETTAESSÄ OLET ALTIINA MÄKYMÄ...NT LASERSTEILYLLE. L. KATSO STEESEEN.
VARNING	OSYNLIG LASERSTRÅLING NR DENNA DEL R...PPNAD OCH SPRÄN R LUKKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NR DEKSEL PNE'S OG SIKKERHEDSLS BRYTES. UNING EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRÅHLUNG WENN ABDECKUNG GE...FFNET. NICHT DEM STRAHL AUSSETZEN.

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

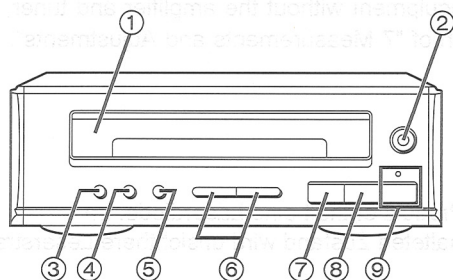
CAUTION!

THIS PRODUCT UTILIZES A LASER.

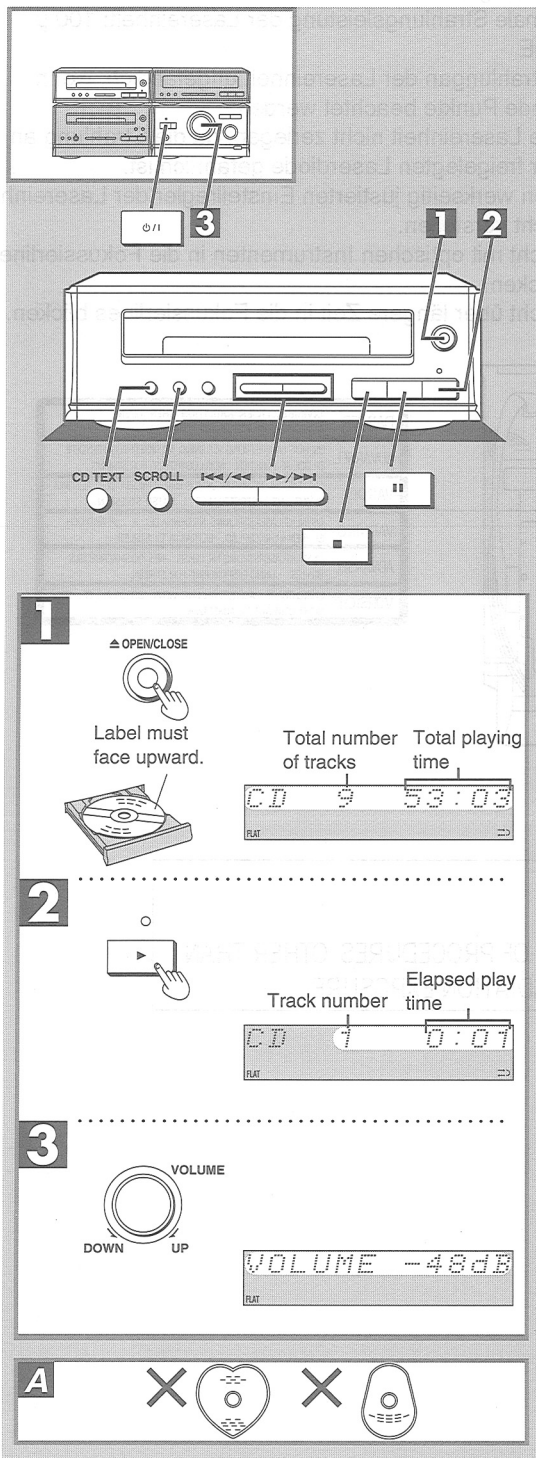
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

3 Operating Instructions

■ Front Panel Controls



■ Listening to Compact Discs



- ① Disc tray
- ② Disc tray open/close button (▲ OPEN/CLOSE)
- ③ CD TEXT button (CD TEXT)
- ④ Scroll button (SCROLL)
- ⑤ AI edit button (AI EDIT)
- ⑥ Skip/search buttons (I◀◀/◀◀, ▶▶/▶▶I)
- ⑦ Stop button (■)
- ⑧ Pause button (||)
- ⑨ Play button and indicator (▶)

The color of the indicator depends on the operation.

If stopped: orange

If playing or paused: green

Sequential play

Preparation: Press [⏻/⏻] to turn the unit on.

1 Press [▲ OPEN/CLOSE] and set a CD on the tray.

Press [▲ OPEN/CLOSE] once again to close the tray.

When the "CD" input source is selected, total number of tracks and total playing time will appear on the display.

If you insert a CD TEXT disc, CD TEXT data is displayed (see below).

2 Press [▶].

Play starts from the first track and stops after the last track.

3 Adjust the volume.

To stop the disc:

Press [■].

To pause play:

Press [||] during play. To resume play, press [||] or [▶].

Skipping tracks:

Press [I◀◀/◀◀] to skip backward. Press [▶▶/▶▶I] to skip forward.

Searching through tracks during play:

Press and hold [I◀◀/◀◀] to search backward. Press and hold [▶▶/▶▶I] to search forward.

Note

- During random play, you can not skip to tracks which have been played.
- During program play or random play, you can search-forward/backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.
- Do not use CDs with poorly attached labels or stickers. Adhesive protruding from underneath stickers or left over from peeled off stickers can cause your system to malfunction.
- Do not use irregular shape CDs.

Playing CD TEXT discs

CD TEXT discs have text information recorded onto them (e.g. the name of the album and artist, messages, etc.).

This unit is able to display this text as you enjoy the CD.

Playback is the same as for normal audio CDs.

To switch between the text display and the normal display:

Press [CD TEXT].

The displays switch each time the button is pressed.

To scroll the text:

Press [SCROLL].

After displaying "SCROLL ON", the CD (or track) title, artists name and other information scrolls continuously across the screen.

To cancel:

Press [SCROLL]. "SCROLL OFF" is displayed.

Note

The text content differs from CD to CD.

4 Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of

clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

4.1. Handling of traverse deck (optical pickup)

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No. 5 (GND) and No. 4 (LD) pins on the flexible board is shorted with a solder build-up to prevent damage to the laser diode. (As shown in Fig. 1.)
To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted. (As shown in Fig. 1.)

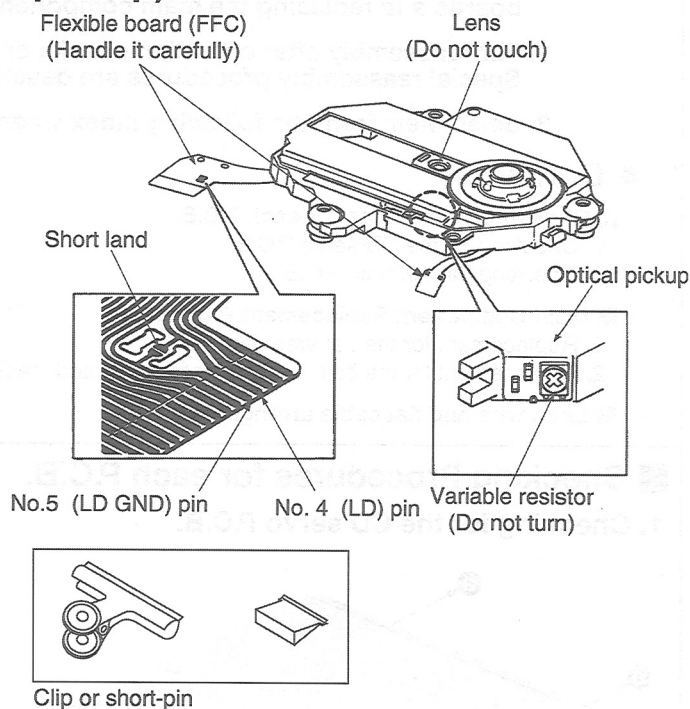


Fig. 1

4.2. Grounding for electrostatic breakdown prevention

1. Human body grounding

Use the anti-static wrist strap to discharge the static electricity from your body. (As shown in Fig. 2.)

2. Work table grounding

Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

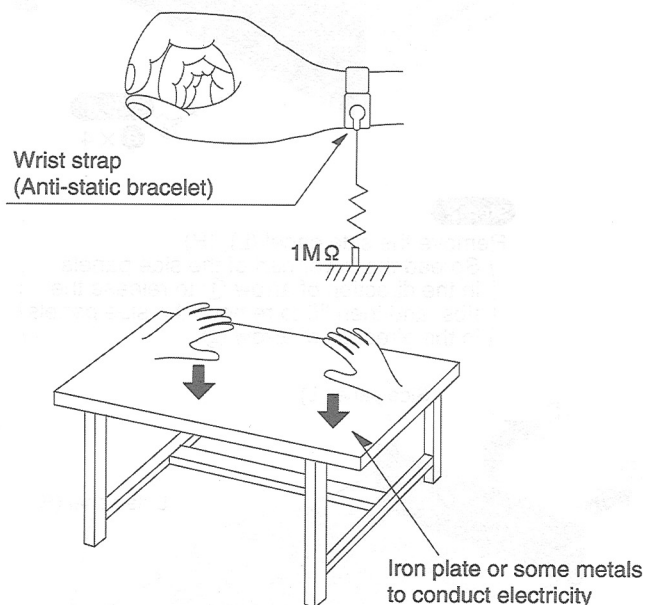


Fig. 2

5 Operation Checks and Component Replacement Procedures

- NOTE**
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
 2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
 3. Select item from the following index when checks or replacement are required.

● Contents

■ Checking Procedures for each P.C.B.

1. Checking for the CD servo P.C.B..
2. Checking for the main P.C.B..

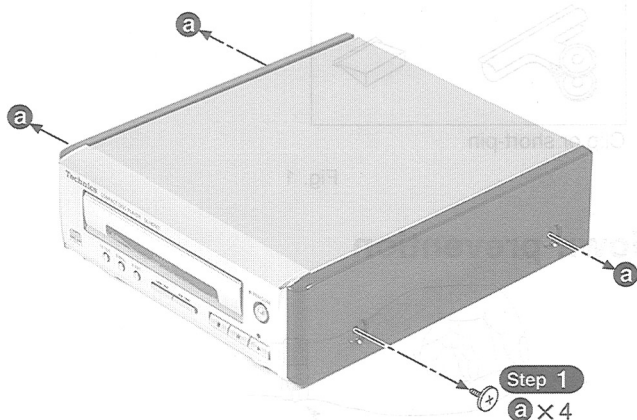
■ Main Component Replacement Procedures

1. Replacement for the traverse deck ass'y.
2. Replacement for the belt, loading motor ass'y and loading switch.

■ Lead wire and flat cable arrangement

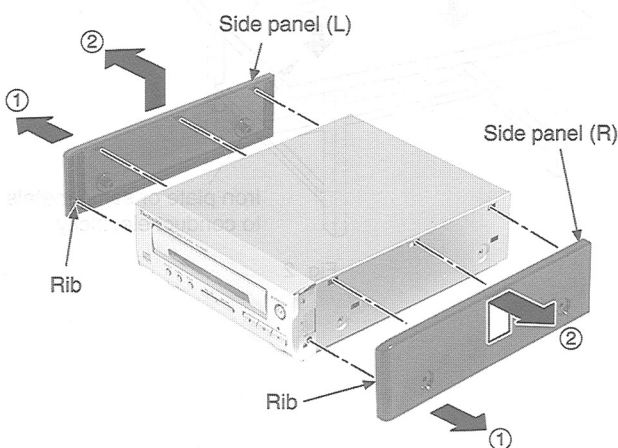
■ Checking Procedures for each P.C.B.

1. Checking for the CD servo P.C.B.



Step 2

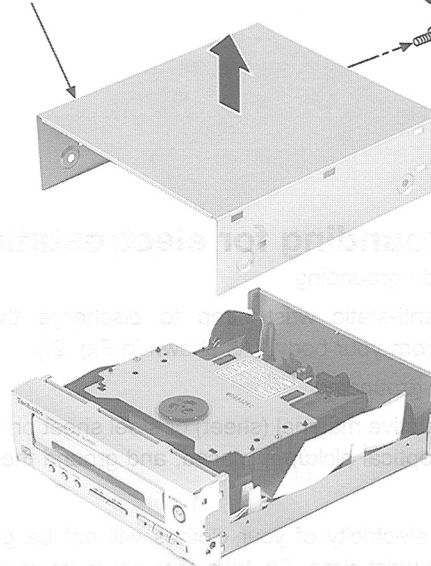
Remove the side panel (L), (R).
Spread the lower part of the side panels in the direction of arrow ① to release the ribs, and then lift to remove the side panels in the direction of arrow ②.



Step 4

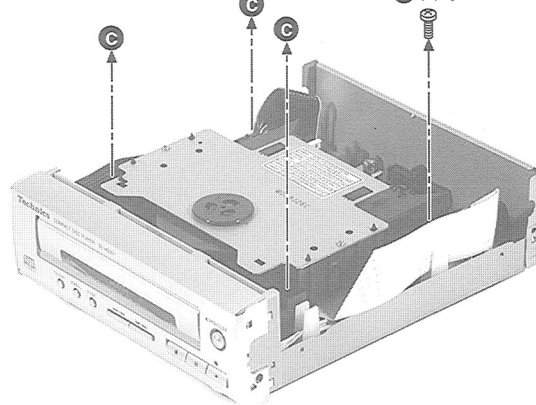
Remove the cabinet.

Step 3



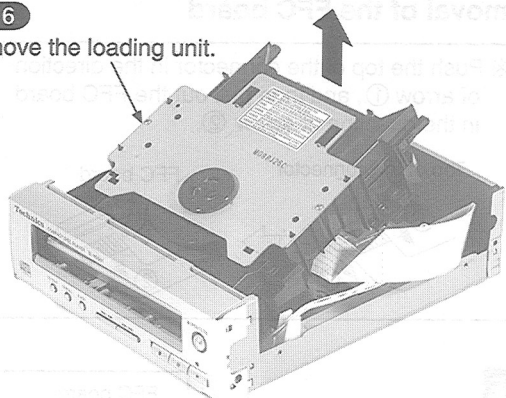
Step 5

C x 4

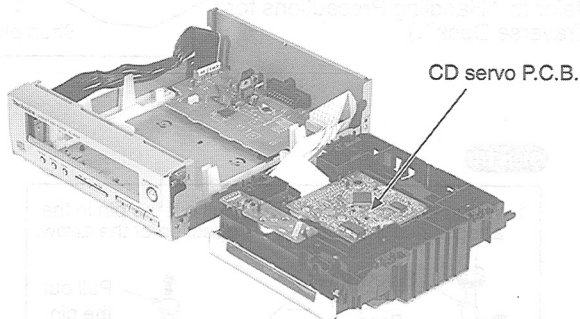


Step 6

Remove the loading unit.



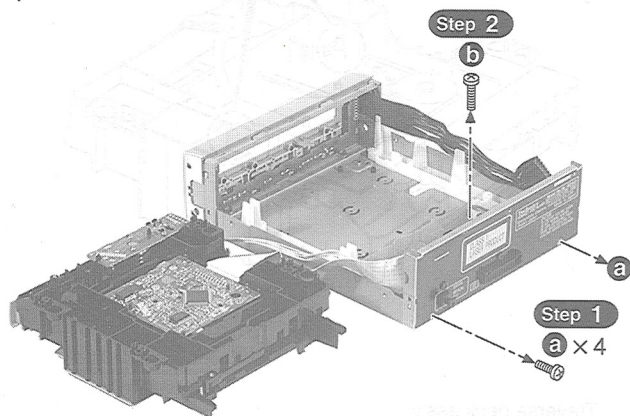
• Check the CD servo P.C.B. as shown below.



CD servo P.C.B.

2. Checking for the main P.C.B.

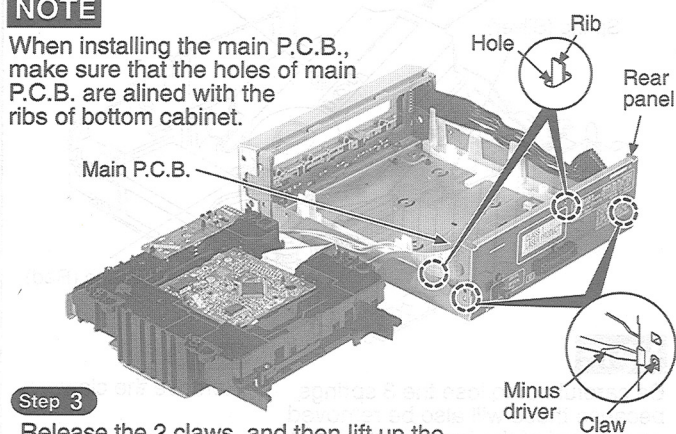
• Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedure for each P.C.B..

**Step 2**

b

Step 1
a × 4
NOTE

When installing the main P.C.B., make sure that the holes of main P.C.B. are aligned with the ribs of bottom cabinet.

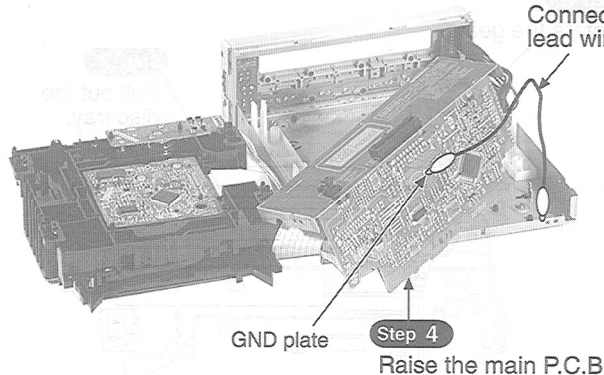
**Step 3**

Release the 2 claws, and then lift up the rear panel and main P.C.B. to remove.

• Check the main P.C.B. as shown below.

Step 5

Connect the lead wire.



GND plate

Step 4

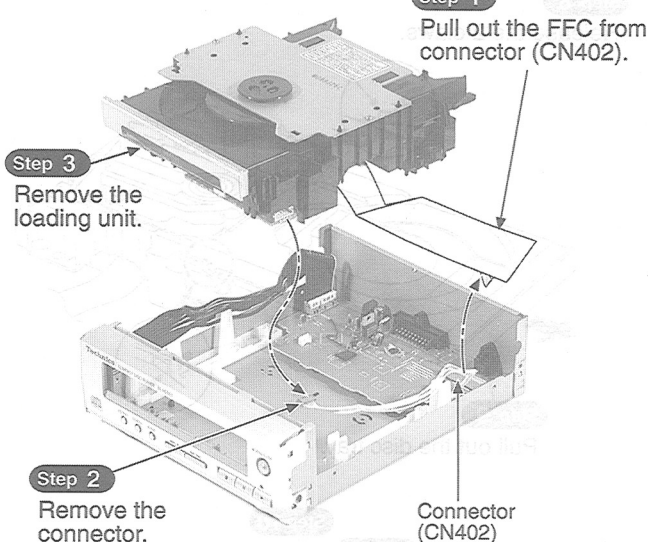
Raise the main P.C.B.

■ Main Component Replacement Procedures**1. Replacement for the traverse deck ass'y**

• Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedure for each P.C.B..

Step 1

Pull out the FFC from connector (CN402).

**Step 3**

Remove the loading unit.

Step 2

Remove the connector.

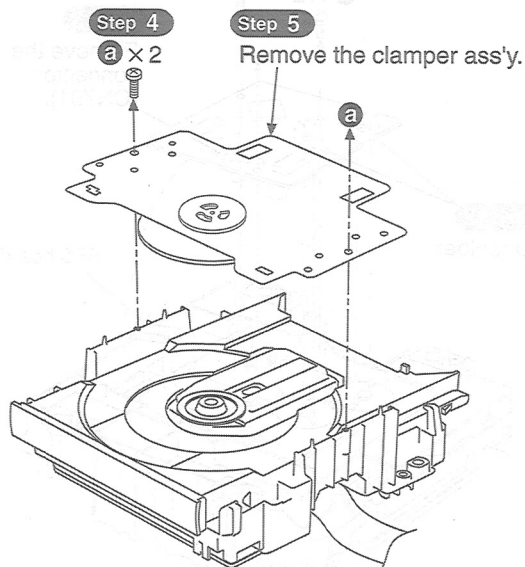
Connector (CN402)

Step 4

a × 2

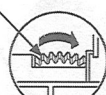
Step 5

Remove the clamber ass'y.

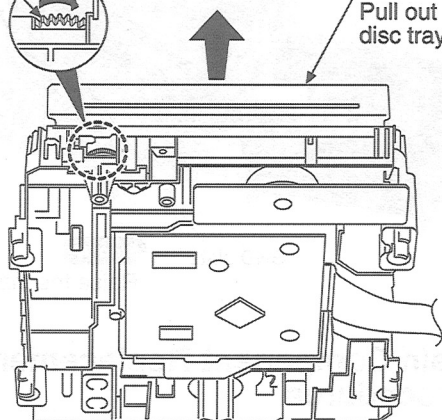


Step 6

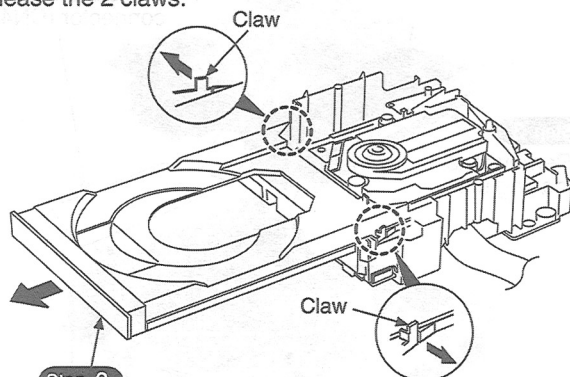
Rotate the gear.

**Step 7**

Pull out the disc tray.

**Step 8**

Release the 2 claws.

**Step 9**

Pull out the disc tray.

**Step 10**

c x 2

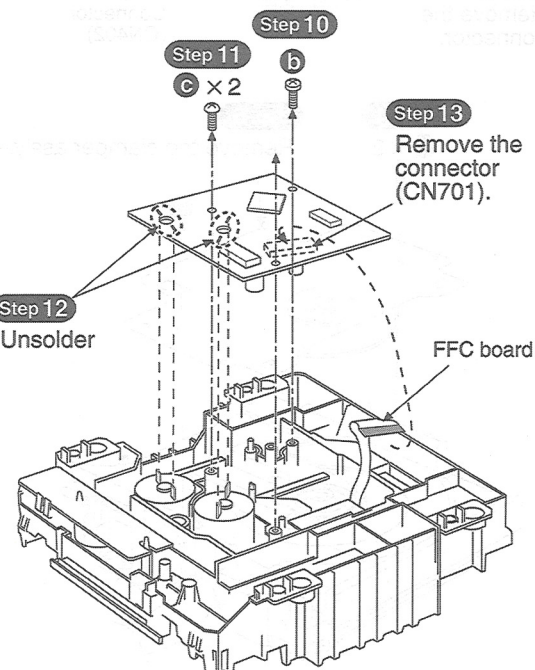
b

Step 13

Remove the connector (CN701).

Step 12
Unsolder

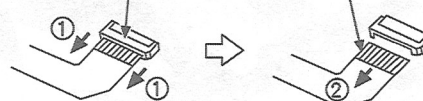
FFC board

**Removal of the FFC board**

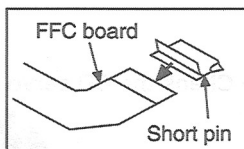
※ Push the top of the connector in the direction of arrow ①, and then pull out the FFC board in the direction of arrow ②.

Top of the connector

FFC board

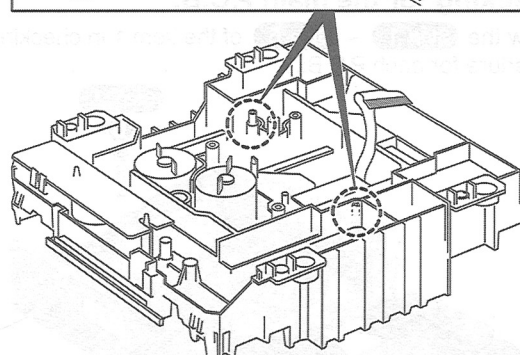
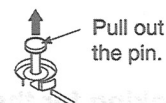
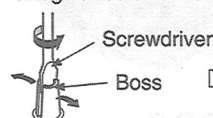
**NOTE**

Insert a short pin into the traverse unit FFC board.
(Refer to "Handling Precautions for Traverse Deck".)

**Step 14**

1. Widen the boss using a regular screwdriver.

2. Pull out the pin in the direction of the arrow.

Traverse deck ass'y
[RAE0152Z]

Spring (Silver)

Spring (Silver)

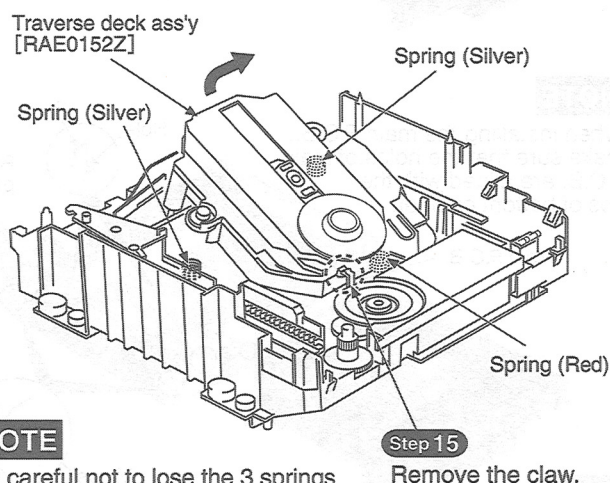
Spring (Red)

NOTE

Be careful not to lose the 3 springs because those will also be removed on removal of the traverse deck ass'y.

Step 15

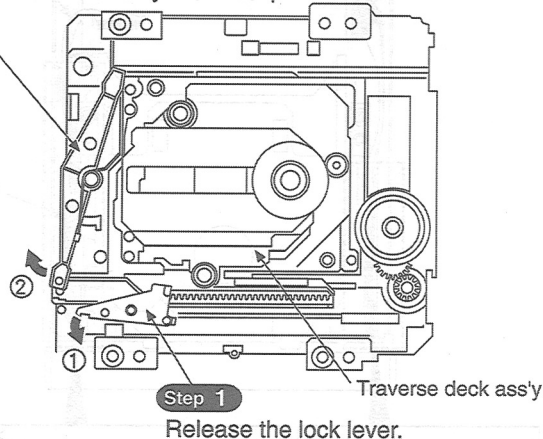
Remove the claw.



Installation of the disc tray after replacement

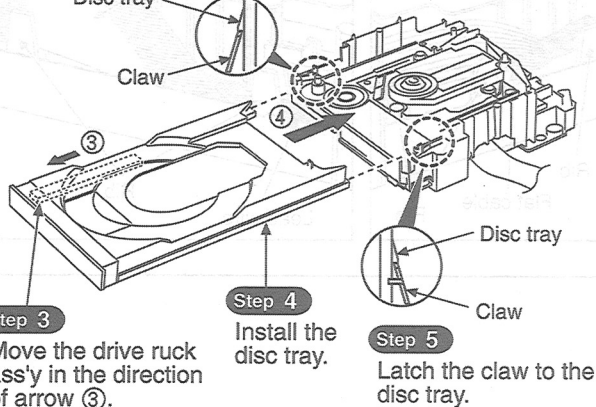
Step 2

Operate the conversion lever, and then locate the traverse deck ass'y to "UP" position.



Disc tray

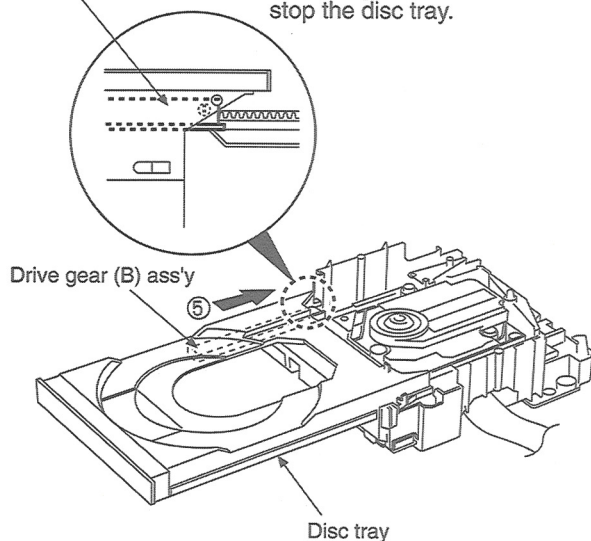
Claw



Step 6

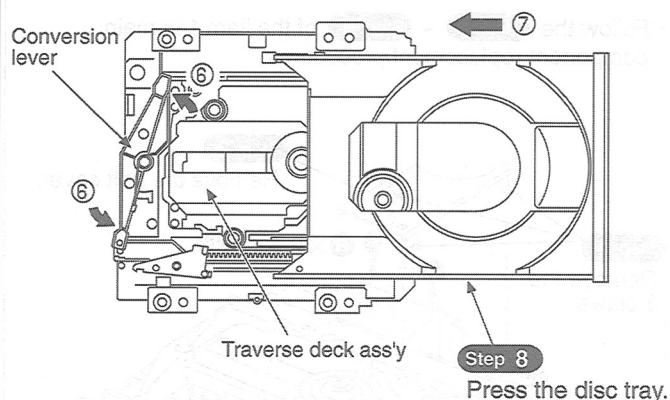
Supporting the disc tray manually, engage the drive gear (B) ass'y with the gear and then slide to stop the disc tray.

Drive gear (B) ass'y



Step 7

Operate the conversion lever, and then locate the traverse deck to "DOWN" position.



Installation of the CD servo P.C.B. after replacement

Step 3

Step 4

a
b

Step 1
Connect the FFC board.

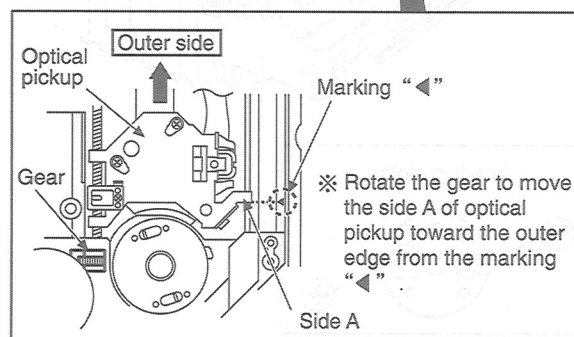
Step 2

Install the CD servo P.C.B. in the traverse deck ass'y.

Rest detect switch

S701

Step 5
Solder.

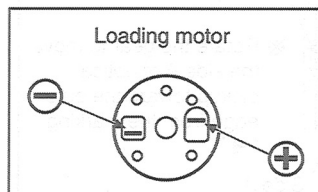
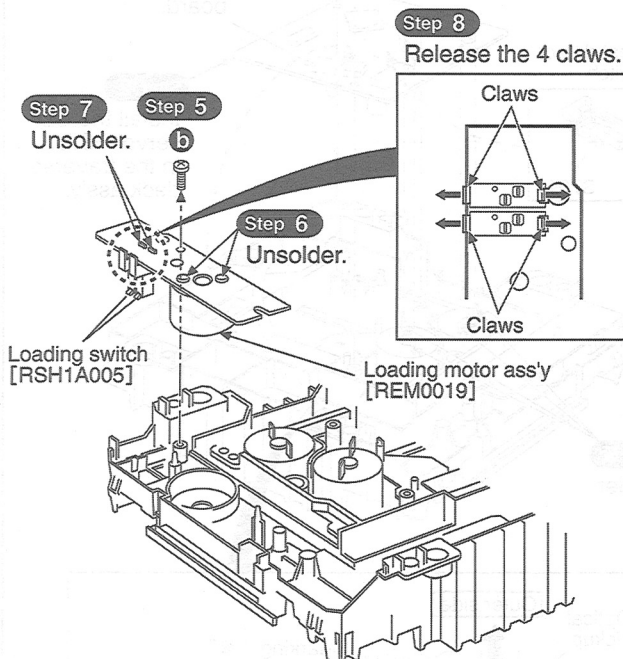
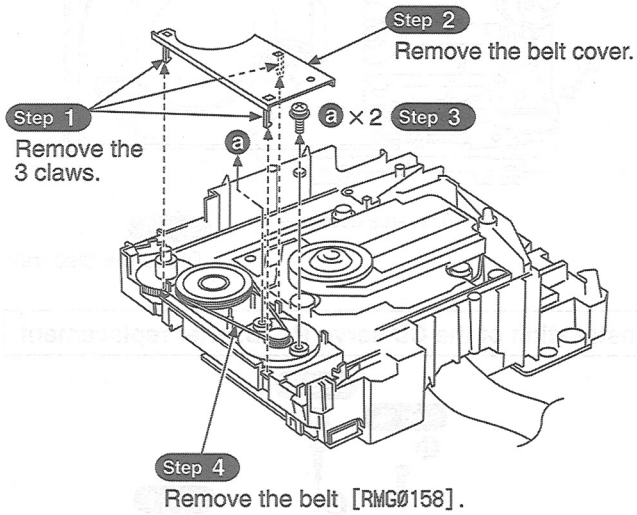


NOTE

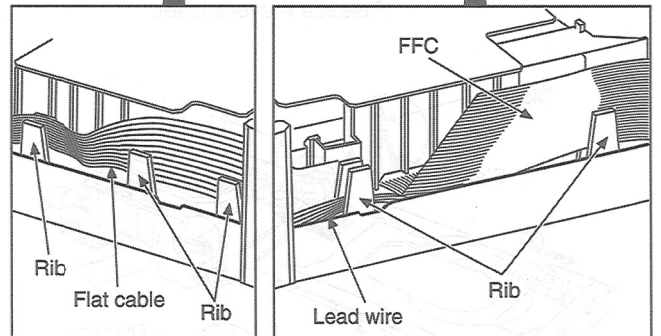
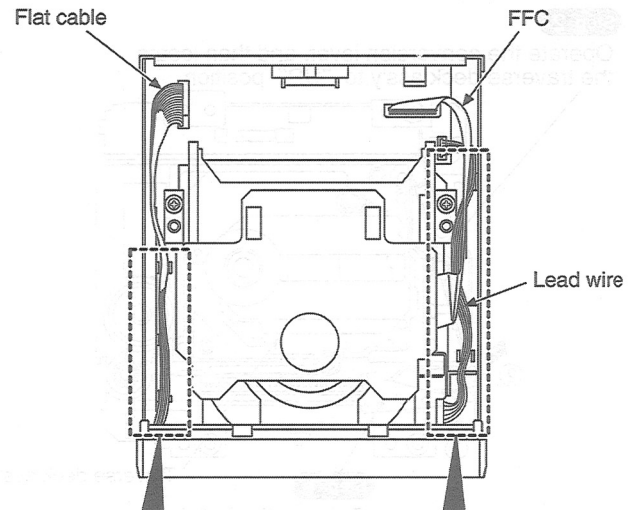
Before installing the CD servo P.C.B., move the optical pickup toward the outer edge from the mark "A". [Otherwise, the rest detect switch (S701) mounted on the CD servo P.C.B. may be damaged.]

2. Replacement for the belt, loading motor ass'y and loading switch.

- Follow the **Step 1** ~ **Step 6** of the item 1 in checking procedure for each P.C.B..
- Follow the **Step 1** ~ **Step 9** of the item 1 in main component replacement procedures.



Lead wire and flat cable arrangement



6 Error Code Display and Servo Adjustment Function

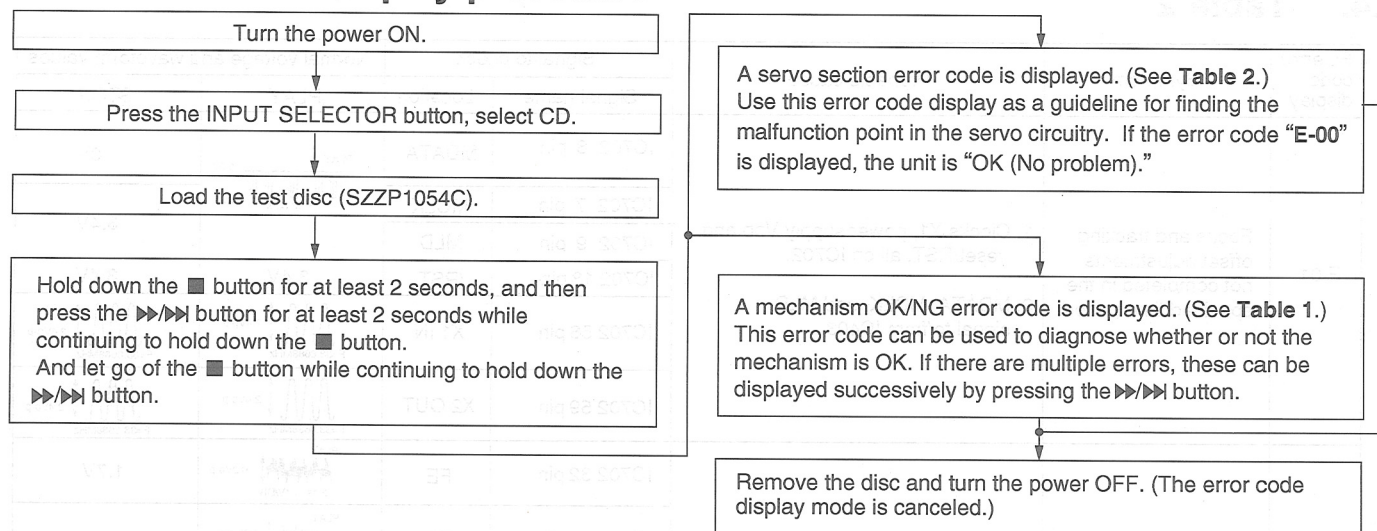
This unit has an error code display function, so that if the unit operates incorrectly, the fault is displayed using an error code on the FL display of the tuner (ST-HD301/501). It also has a servo adjustment function for displaying the status of servo system functions (focus, tracking, CLV) on the tuner's FL display. The system control IC and FL display are part of the tuner so make sure the system has been connected properly before using these functions. (This unit can be operated

independently, although the error code display and servo adjustment functions cannot be used.) Use these two functions for guidance during fault diagnosis and repair.

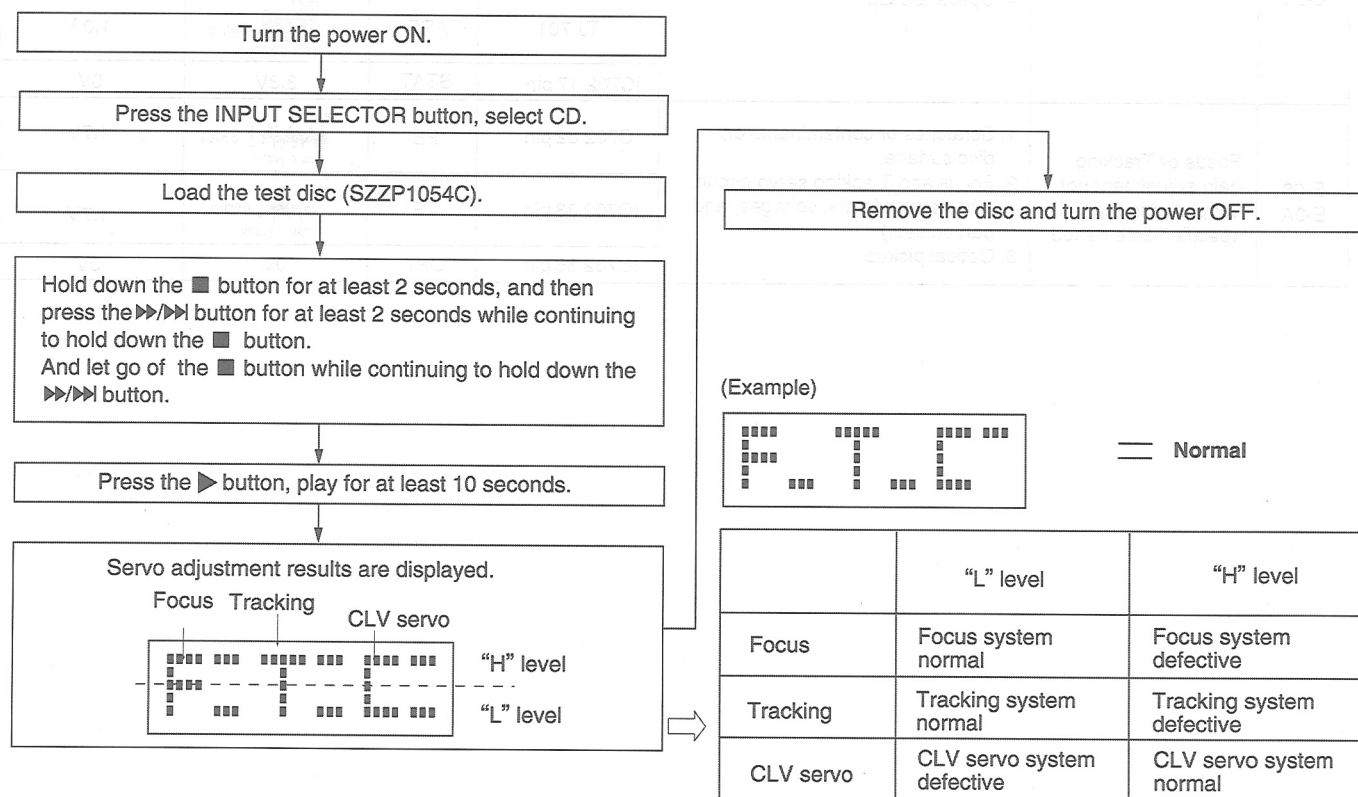
Note:

Check beforehand for scratching or soiling of the test disc (SZZP1054C), and soiling or other problems with the optical pickup lens.

6.1. Error code display procedure



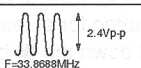
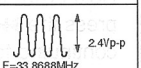
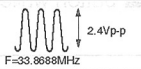
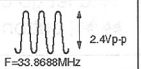
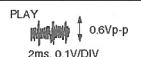
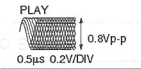
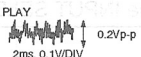
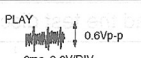
6.2. Servo adjustment procedure



6.3. Table 1

FL display	Symptom	Cause
H - 15	When CD tray opens, it closes by itself.	Disc tray "Open" detection sensor fault.
H - 16	When CD tray closes, it opens by itself.	Disc tray "Closed" detection sensor fault.
F - 15	Does not play, even when CD play button is pressed.	Pickup rest position detection switch fault.
F - 26	Does not move even when ►(PLAY) is pressed.	System control or servo processor IC fault.

6.4. Table 2

FL error code display	Symptom	Probable cause	Signal to check		Normal voltage and waveform values	
			Signal name	Location	PLAY	STOP
E-01	Focus and tracking offset adjustments not completed in the specified time period.	1. Clocks X1, power supply V _{DD} and reset/RST, all on IC702. 2. MDATA, MCLK, and MLD signal to/from IC403.	IC702 8 pin	MDATA		0V
			IC702 7 pin	MCLK		3.4V
			IC702 9 pin	MLD		3.4V
			IC702 18 pin	/RST	3.4V	3.4V
			IC702 58 pin	X1 IN		
			IC702 59 pin	X2 OUT		
E-02 E-04 E-06 E-0A E-0C E-0E	Disc play unstable.	1. Scratches or contaminants on disc surface. 2. Focus and tracking servo circuits. (check waveforms, voltages, and part values.) 3. Spindle driver circuit. 4. Optical pickup.	IC702 32 pin	FE		1.7V
			IC702 33 pin	TE		1.7V
			IC702 28 pin	FOD	1.7V	1.7V
			IC702 27 pin	TRD	1.7V	1.7V
			IC702 38 pin	/RFDET	0V	3.4V
			TJ 701	ARF		1.0 V
			IC702 17 pin	STAT	3.3V	0V
E-08 E-0A	Focus or Tracking gain adjustment not completed in the specified time period.	1. Scratches or contaminants on disc surface. 2. Focus and Tracking servo circuit. (check waveforms, voltages, and part values.) 3. Optical pickup.	IC702 32 pin	FE		1.7V
			IC702 33 pin	TE		1.7V
			IC702 36 pin	OFT	0V	0V

7 Measurements and Adjustments

Cautions:

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "ON", laser radiation is emitted from the pickup lens.
- Avoid exposure to the laser beam, especially when performing adjustments.

This unit SL-HD301/501 is designed to operate on power supplied from the Amplifier SE-HD301/501 through the Tuner ST-HD301/501. When connecting the unit to other system components, do not connect to the Amplifier SE-HD301/501 directly. Be sure to connect this unit through the Tuner ST-HD301/501. When operating the unit SL-HD301/501 alone for testing and servicing, without having

power supplied from the Amplifier SE-HD301/501, use the following method.

7.1. Power Supply to This Unit alone

Apply 10V DC power to the section between JK401-5pin(10VDC) and JK401-6pin(D.GND). (As shown in Fig. 3.)

7.2. To Check Signals

Connect the oscilloscope or the speaker with built-in amplifier to the section between JK401-16pin[LINE OUT(Rch)] and JK401-17pin(A.GND) as well as the section between JK401-18pin[LINE OUT(Lch)] and JK401-17pin(A.GND) and check if the signals are outputting from this unit. (As shown in Fig. 3.)

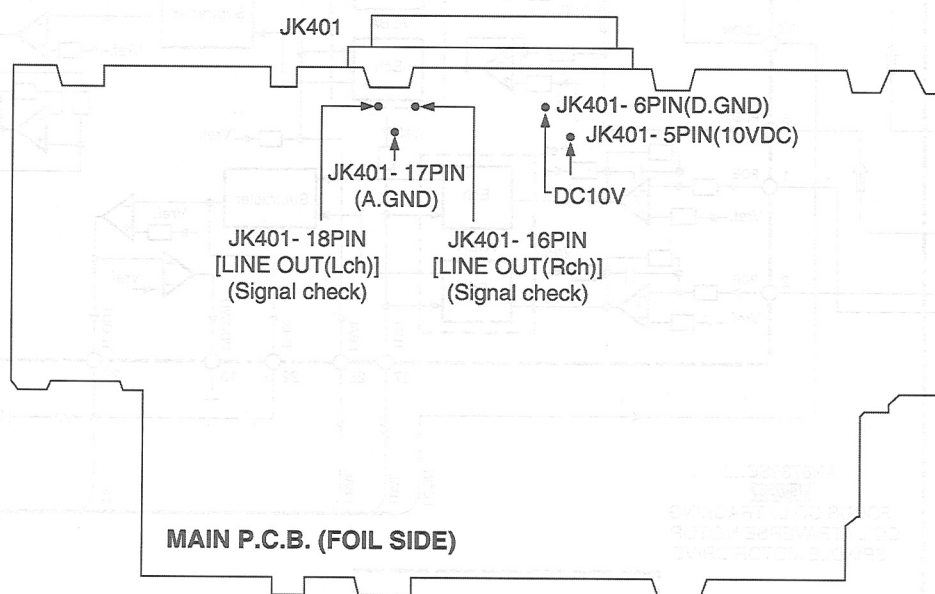
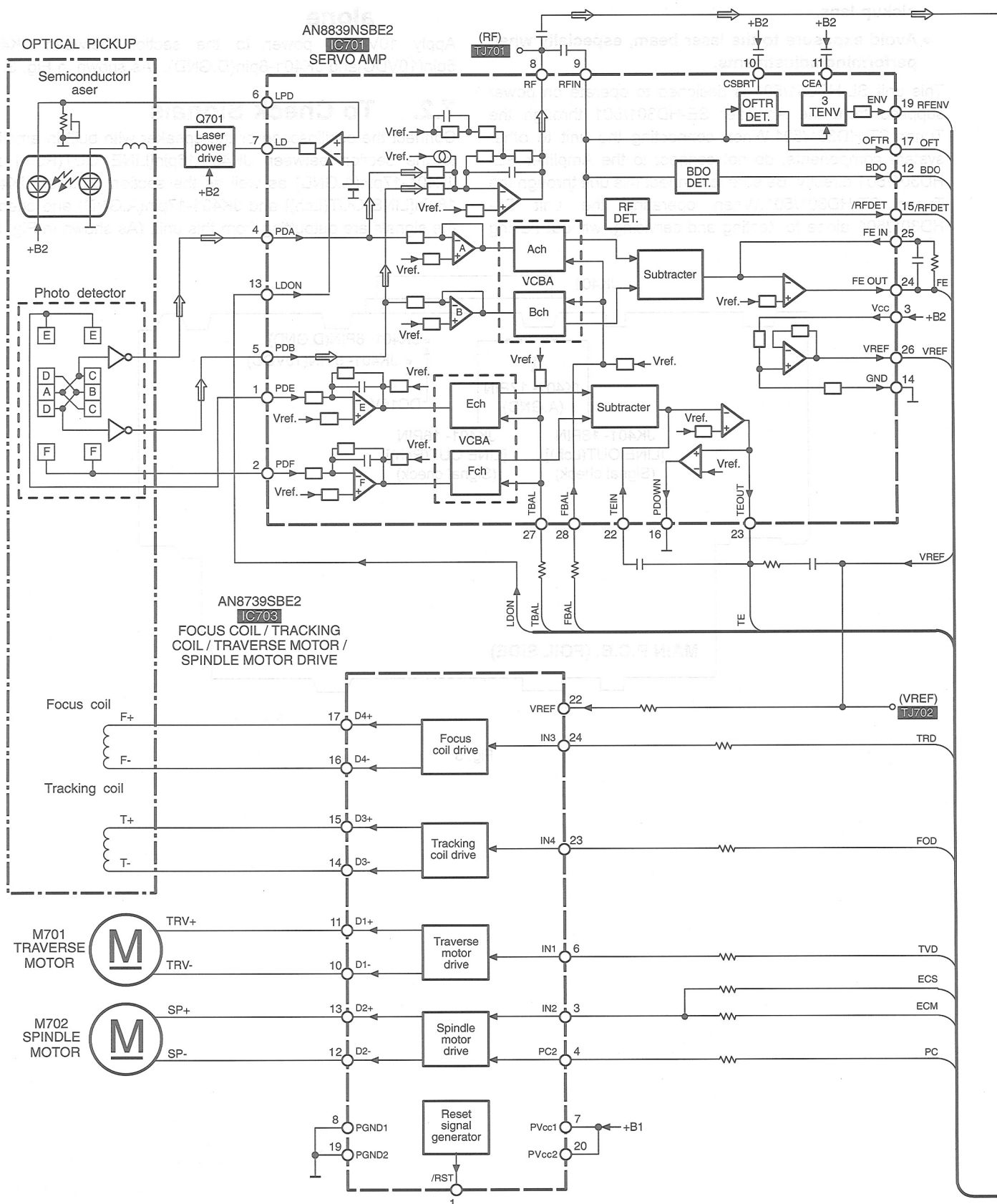
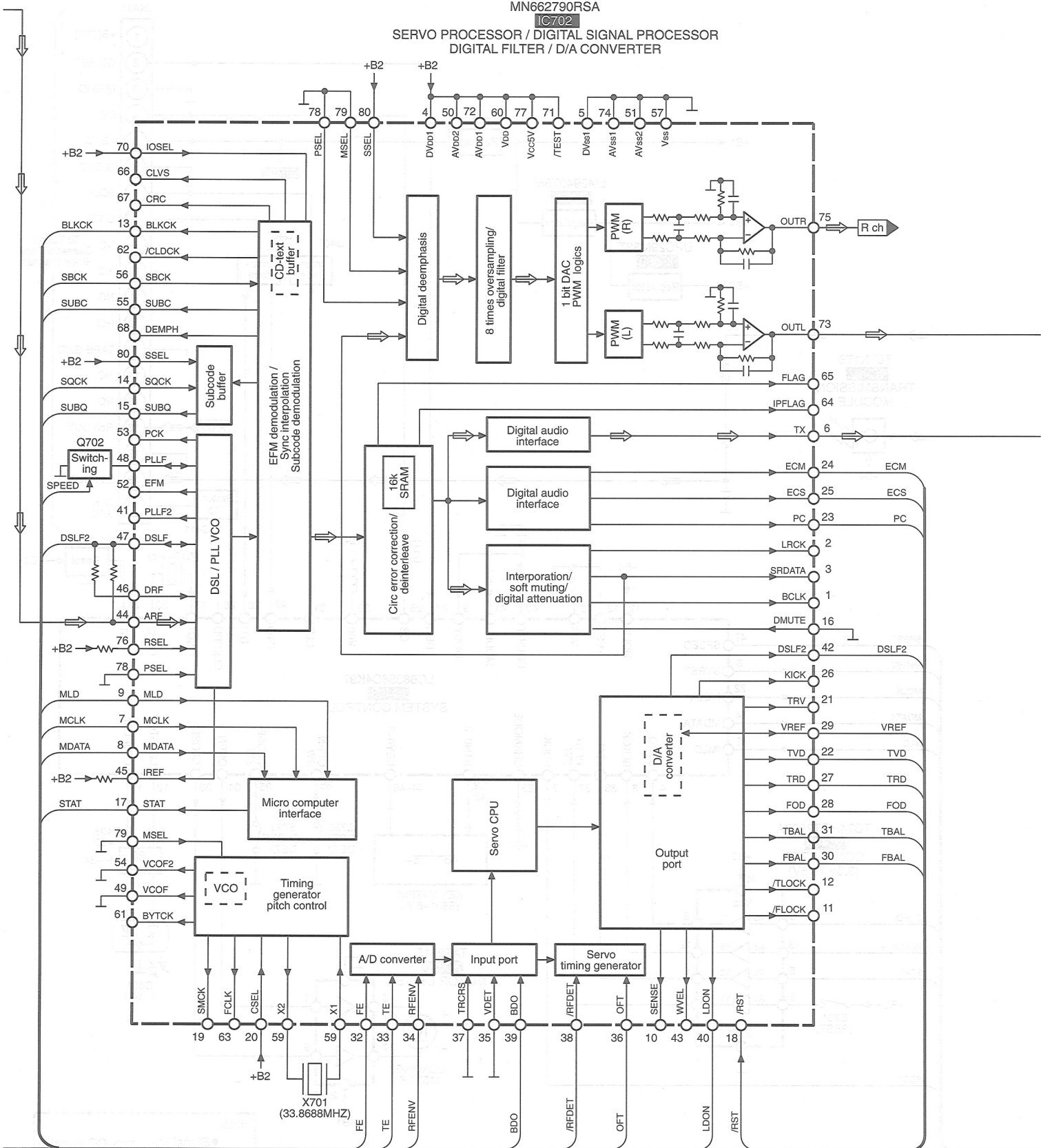


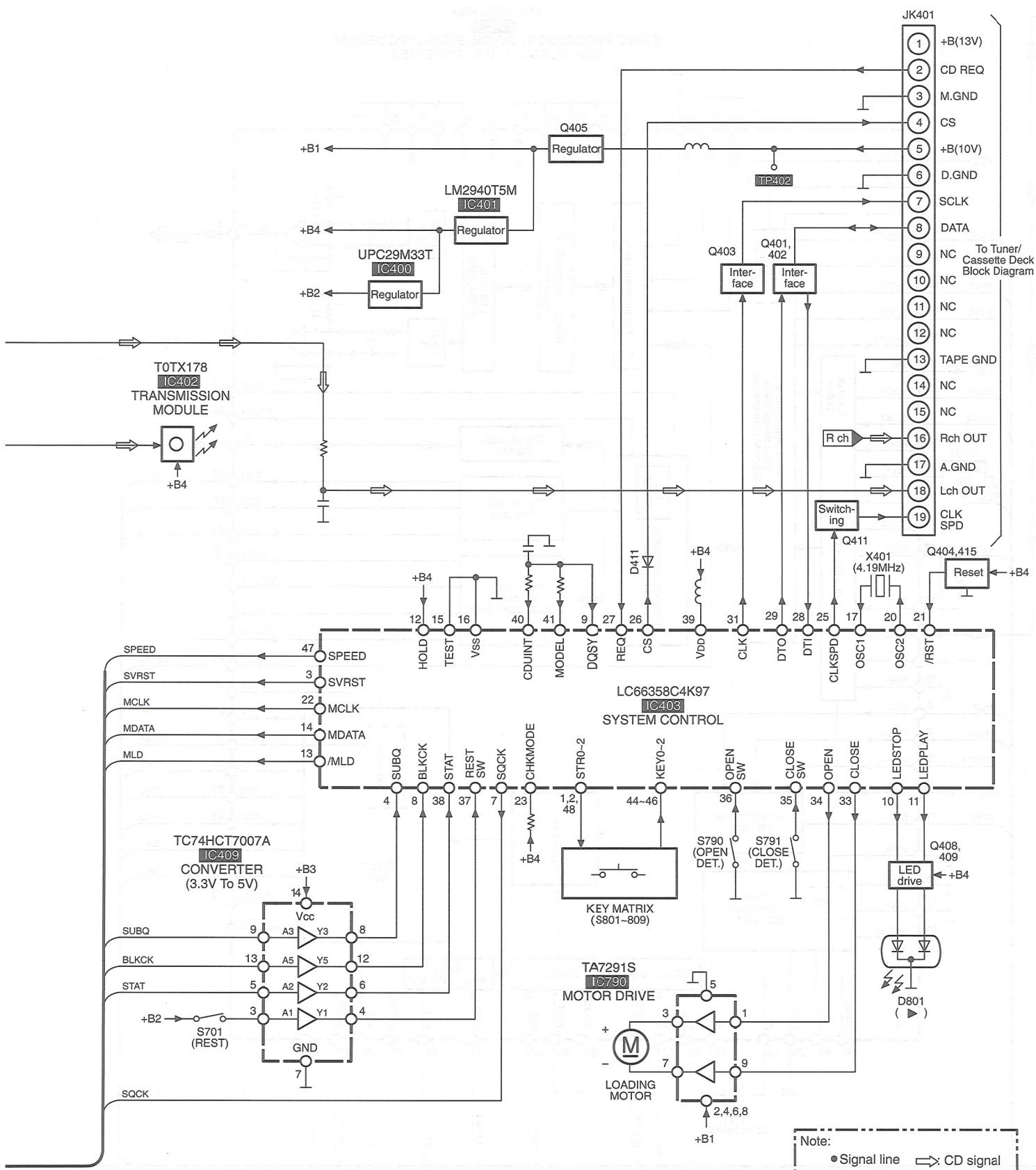
Fig. 3

8 Block Diagram



MN662790RSA
IC702
 SERVO PROCESSOR / DIGITAL SIGNAL PROCESSOR
 DIGITAL FILTER / D/A CONVERTER





9 Schematic Diagram Notes

9.1. Schematic Diagram Notes

This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S701 : Rest position detect switch.
- S790 : CD tray open switch.
- S791 : CD tray close switch.
- S801 : Stop (■) switch.
- S802 : Play (▶) switch.
- S803 : Pause (||) switch.
- S804 : CD tray open/close (▲ OPEN/CLOSE) switch.
- S805 : F. skip/ search (▶▶ / ▶▶▶) switch
- S806 : R. skip/ search (◀◀ / ◀◀◀) switch.
- S807 : CD text select (CD TEXT) switch.
- S808 : AI edit (AI EDIT) switch.
- S809 : Scroll (SCROLL) switch.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: CD STOP

(): CD play [1kHz, L+R, 0dB]

Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

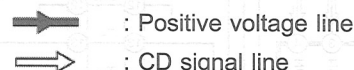
Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

Voltage and signal line



9.2. Type Illustration of IC's, Transistors and Diodes

AN8839NSBE2 	AN8739SBE2 	TC74HCT7007A 	LC66358C4K97 	MN662790RSA 	TA7291S
LM2940T5M 	UPC29M33T 	T0TX178 	2SD2137PQTA 	2SB709STX 2SC4081STX DTA143XUT106 DTC114YUT106 DTC143EUT106 DTC143XUA106	
SPR-305MDTF 	MA8082MTX MA8039LTX 	MA111TX 	MA728TX 		

A CD SERVO CIRCUIT

→ : POSITIVE VOLTAGE LINE ⇨ : CD SIGNAL LINE



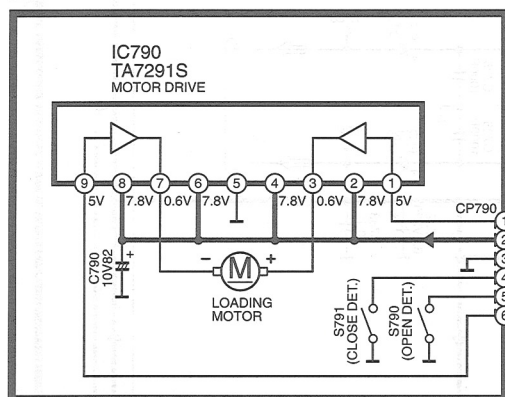


SCHEMATIC DIAGRAM-3

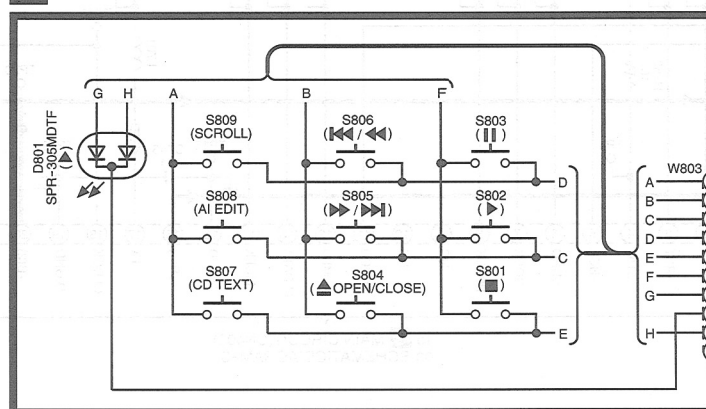
← MAIN SIGNAL STAND-BY

C MAIN CIRCUIT

→ : POSITIVE VOLTAGE LINE ⇨ : CD SIGNAL LINE

B LOADING MOTOR CIRCUIT

To **A** CD SERVO
CIRCUIT(CN702)
on SCHEMATIC DIAGRAM-2

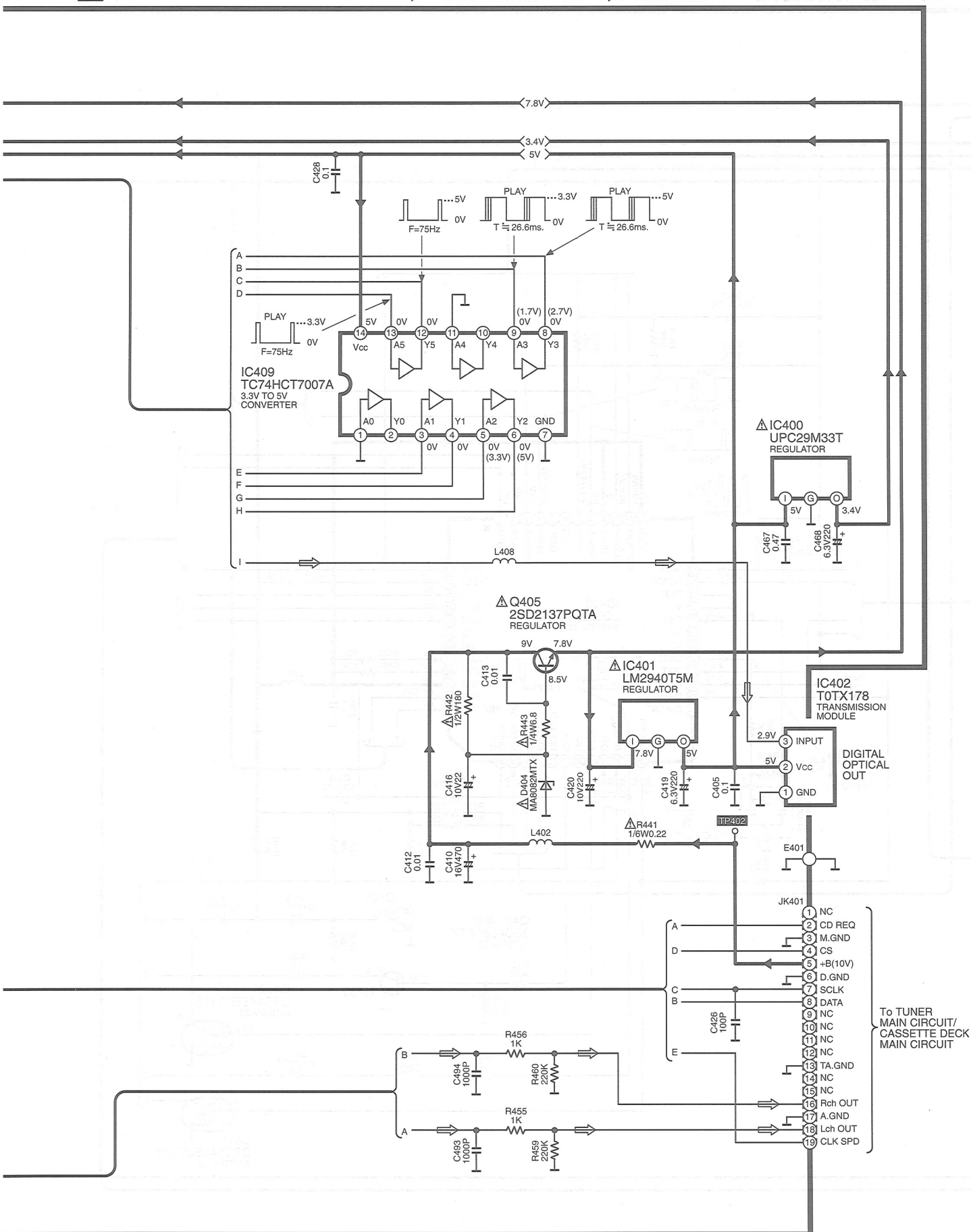
D OPERATION CIRCUIT



SCHEMATIC DIAGRAM-5

C MAIN CIRCUIT

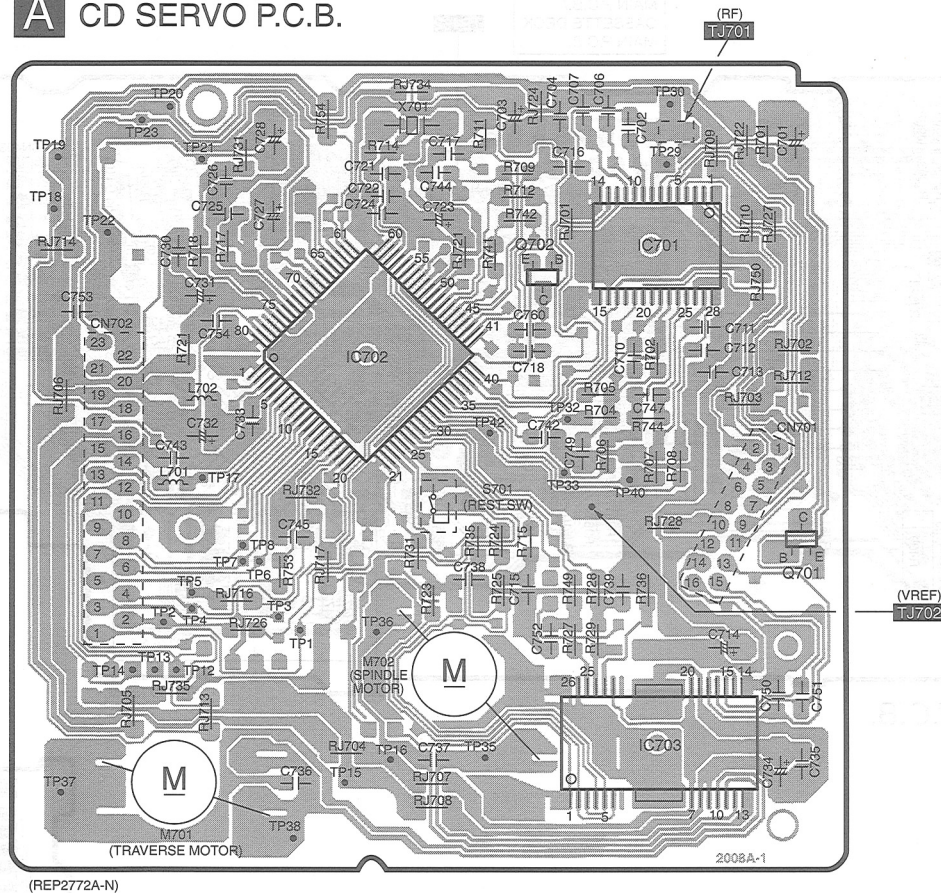
→ : POSITIVE VOLTAGE LINE ⇨ : CD SIGNAL LINE



11 Printed Circuit Board Diagram

A B C D E F

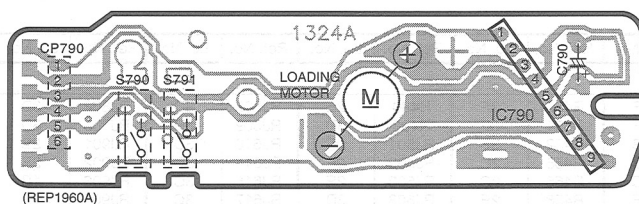
A CD SERVO P.C.B.

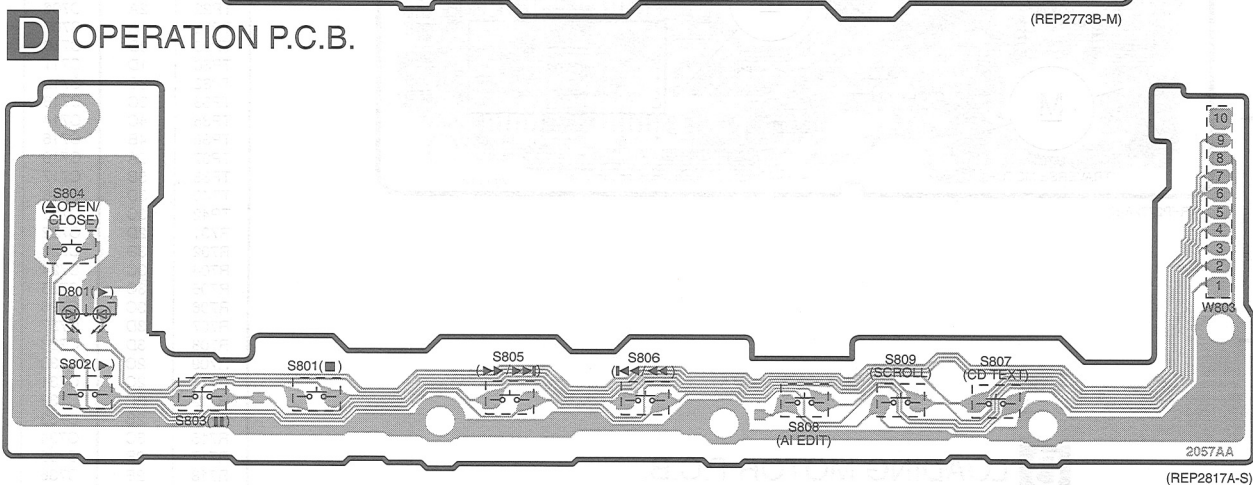


ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.
A CD SERVO P.C.B.			
IC701	2D	R754	1B
IC702	3B	RJ701	2C
IC703	4D	RJ702	3D
Q701	3D	RJ703	3D
Q702	2C	RJ704	4B
L701	3A	RJ705	4A
L702	3B	RJ706	3A
X701	1C	RJ707	4C
S701	3C	RJ708	5C
CN701	3D	RJ709	2D
CN702	3A	RJ710	2D
M701	4A	RJ712	3D
M702	4C	RJ713	4B
TP1	4B	RJ714	2A
TP2	4A	RJ716	4B
TP3	4B	RJ717	3B
TP4	4B	RJ721	2C
TP5	4B	RJ722	2D
TP6	3B	RJ724	1C
TP7	3B	RJ726	4B
TP8	3B	RJ727	2D
TP12	4A	RJ728	3D
TP13	4A	RJ731	2B
TP14	4A	RJ732	3B
TP15	4B	RJ734	1C
TP16	4B	RJ735	4A
TP17	3B	RJ750	2D
TP18	2A	C701	2D
TP19	2A	C702	2D
TP20	1A	C703	1C
TP21	2B	C704	1C
TP22	2A	C706	1C
TP23	1A	C707	1C
TP29	2D	C710	3D
TP30	1D	C711	2D
TP32	3C	C712	3D
TP33	3C	C713	3D
TP35	4C	C714	4D
TP36	4B	C715	4C
TP37	5A	C716	2C
TP38	5B	C717	2C
TP40	3D	C718	3C
TP42	3C	C721	2B
R701	2D	C722	2B
R702	3D	C723	2C
R704	3C	C724	2B
R705	3C	C725	2B
R706	3C	C726	2B
R707	3D	C727	2B
R708	3D	C728	2B
R709	2C	C730	2A
R711	2C	C731	2B
R712	2C	C732	3B
R714	2B	C733	3B
R715	3C	C734	4D
R717	2B	C735	4D
R718	2B	C736	4B
R721	3B	C737	4C
R723	4C	C738	4C
R724	3C	C739	4C
R725	4C	C742	3C
R727	4C	C743	3A
R728	4C	C744	2C
R729	4C	C745	3B
R731	3C	C747	3D
R735	3C	C749	3C
R736	4D	C750	4D
R741	2C	C751	4D
R742	2C	C752	4C
R744	3D	C753	2A
R749	4C	C754	2B
R753	3B	C760	2C
B LOADING MOTOR P.C.B.			
IC790	7D	CP790	7B
S790	7B	C790	7D
S791	7B		

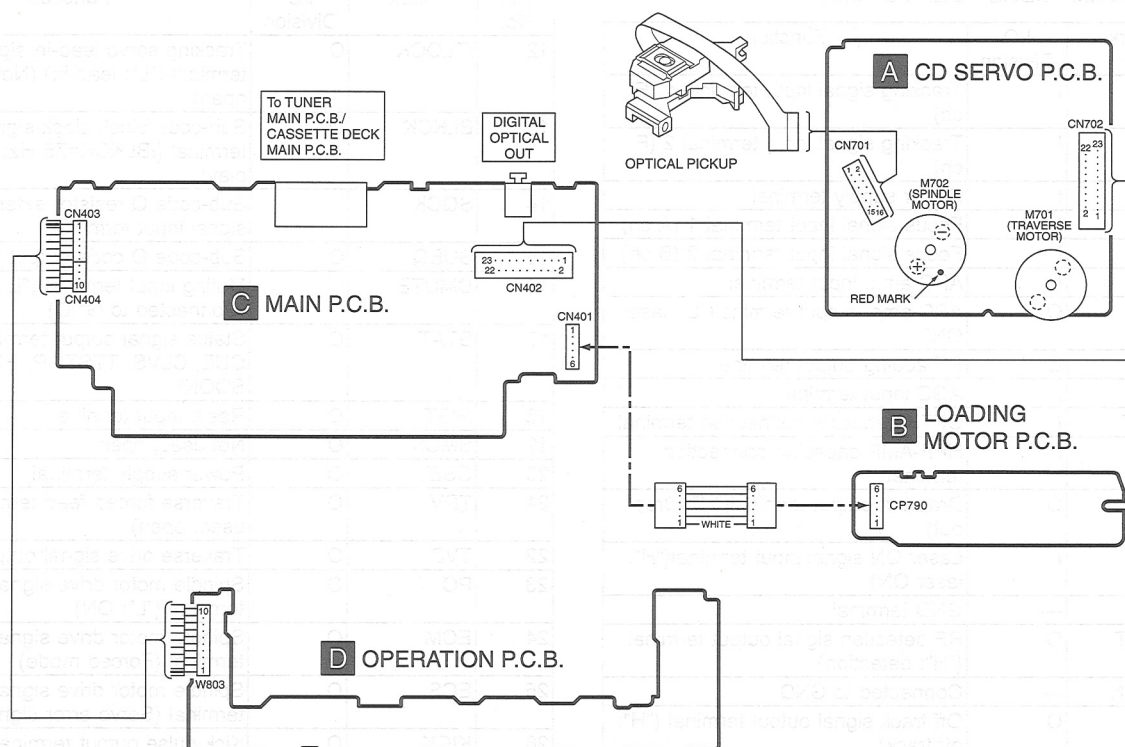
B LOADING MOTOR P.C.B.





Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
C MAIN P.C.B.															
IC400	3B	D410	2F	R406	2F	R450	3F	R480	2E	RJ608	3D	RJ802	3D	C412	2E
IC401	2D	D411	2E	R407	2F	R451	3F	R498	3D	RJ609	3D	RJ803	3D	C413	2E
IC402	2B	D420	3E	R409	3B	R452	3F	RJ501	2F	RJ610	3D	RJ901	2B	C416	2E
IC403	3E	D478	3B	R410	3B	R455	2C	RJ502	2F	RJ614	3D	RJ902	2B	C419	2D
IC409	3C	L402	2D	R414	3C	R456	2C	RJ503	2E	RJ616	3C	RJ903	1B	C420	2E
Q401	2F	L406	3D	R415	3E	R458	2E	RJ508	3D	RJ617	3C	RJ904	2B	C425	3E
Q402	2F	L408	3A	R416	3F	R459	2C	RJ509	3D	RJ618	2C	RJ905	2B	C426	2D
Q403	2E	L409	2E	R423	2E	R460	2C	RJ510	3D	RJ619	3C	RJ906	2B	C428	3C
Q404	3F	X401	3E	R427	2E	R470	2E	RJ511	3D	RJ621	2B	RJ907	2B	C467	2B
Q405	2E	CN401	3A	R428	2F	R471	4E	RJ514	3C	RJ622	3B	RJ908	2B	C468	3B
Q408	4E	CN402	2A	R430	3F	R473	4E	RJ601	2F	RJ623	2B	C401	2A	C493	2C
Q409	4E	CN403	2F	R433	3F	R474	2B	RJ602	2E	RJ625	3D	C402	3D	C494	2C
Q411	2F	CN404	2F	R439	2E	R475	3A	RJ603	3E	RJ627	2B	C403	3D	C499	2A
Q415	3F	JK401	2D	R440	2E	R476	3A	RJ604	4E	RJ628	3B	C405	2A		
D404	2E	E401	2D	R441	2D	R477	3B	RJ605	3D	RJ629	3B	C406	3F		
D405	3F	R403	4E	R442	2E	R478	2B	RJ606	3D	RJ630	2A	C409	3A		
D409	2F	R405	3E	R443	2E	R479	3B	RJ607	3D	RJ631	3E	C410	2D		
D OPERATION P.C.B.															
D801	5A	S802	6A	S804	5A	S806	6D	S808	6D	W803	5F				
S801	6B	S803	6B	S805	6C	S807	6E	S809	6E						

12 Wiring Connection Diagram



13 Terminal Function of IC's

• IC701 (AN8839NSBE2): SERVO AMP

Pin No.	Mark	I/O Division	Function
1	PDE	I	Tracking signal input terminal 1 (E ch)
2	PDF	I	Tracking signal input terminal 2 (F ch)
3	VCC	I	Power supply terminal
4	PDA	I	Focus signal input terminal 1 (A ch)
5	PDB	I	Focus signal input terminal 2 (B ch)
6	LPD	I	APC amp. input terminal
7	LD	O	APC amp. output terminal("L": laser ON)
8	RF	O	RF adding output terminal
9	RFIN	I	AGC input terminal
10	CSBRT	I	OFTR capacitor connection terminal
11	CEA	I	HPF-AMP capacitor connection terminal
12	BDO	O	Drop out output terminal("H": Drop out)
13	LDON	I	Laser ON signal input terminal("H": laser ON)
14	GND	—	GND terminal
15	/RFDET	O	RF detection signal output terminal ("H": detection)
16	PDOWN	—	Connected to GND
17	OFTR	O	Off track signal output terminal ("H": off track)
18	NC	—	—
19	ENV	O	RF envelope signal output terminal
20	NC	—	—
21	NC	—	—
22	TEN	I	Tracking error amp input terminal
23	TEOUT	O	Tracking error amp. output terminal
24	FEOUT	O	Focus error amp. output terminal
25	FEN	I	Focus error amp. input terminal
26	VREF	O	VREF output terminal
27	TBAL	I	Tracking balance adj. input terminal
28	FBAL	I	Focus balance adj. input terminal

• IC702 (MN662790RSA): SERVO PROCESSOR/DIGITAL SIGNAL PROCESSOR/DIGITAL FILTER/D-A CONVERTER

Pin No.	Mark	I/O Division	Function
1	BCLK	O	Serial data bit clock output terminal(Not used, open)
2	LRCK	O	L/R discriminating signal output terminal(Not used, open)
3	SRDATA	O	Serial data output terminal(Not used, open)
4	DV _{DD1}	I	Power supply (digital circuit) terminal
5	DV _{SS1}	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal output terminal
7	MCLK	I	Microcomputer command clock signal input terminal(Latching on the data by rising edge)
8	MDATA	I	Microcomputer command data signal input terminal
9	MLD	I	Microcomputer command load signal input terminal
10	SENSE	O	Sense signal output terminal (OFT, FESL, NACEND, NAJEND, DATA, SFG) (Not used, open)
11	/FLOCK	O	Focus servo lead-in signal output terminal ("L": lead-in) (Not used, open)

Pin No.	Mark	I/O Division	Function
12	/TLOCK	O	Tracking servo lead-in signal output terminal ("L": lead-in) (Not used, open)
13	BLKCK	O	Sub-code block clock signal output terminal (fBLKCK=75 Hz: normal play)
14	SQCK	I	Sub-code Q resistor external clock signal input terminal
15	SUBQ	O	Sub-code Q code output terminal
16	DMUTE	I	Muting input terminal ("L": mute) (Connected to GND)
17	STAT	O	Status signal output terminal (CRC, CUE, CLVS, TTSTOP, FCLV, SQOK)
18	/RST	O	Reset input terminal
19	SMCK	O	Not used, open
20	CSEL	O	Power supply terminal
21	TRV	O	Traverse forced feed terminal(Not used, open)
22	TVD	O	Traverse drive signal output terminal
23	PC	O	Spindle motor drive signal output terminal ("L": ON)
24	ECM	O	Spindle motor drive signal output terminal (Forced mode)
25	ECS	O	Spindle motor drive signal output terminal (Servo error signal)
26	KICK	O	Kick pulse output terminal (Not used, open)
27	TRD	O	Tracking drive signal output terminal
28	FOD	O	Focus drive signal output terminal
29	VREF	I	VREF input terminal
30	FBAL	O	Focus balance adj. output terminal
31	TBAL	O	Tracking balance adj. output terminal
32	FE	I	Focus error signal input terminal(analog input)
33	TE	I	Tracking error signal input terminal(analog input)
34	RFENV	I	RF envelope signal input terminal
35	VDET	I	Oscillation det. signal input terminal("H": det.) (Connected to GND)
36	OFT	I	Off track signal input terminal("H": off track)
37	TRCRS	I	Track cross signal input terminal(Connected to GND)
38	/RFDET	I	RF detection signal input terminal("L": detection)
39	BDO	I	Dropout signal input terminal ("H": dropout)
40	LDON	O	Laser ON signal output terminal ("H": ON)
41	PLL2	—	PLL loop filter 2 terminal(Not used, open)
42	DSL2	—	DSL loop filter 2 terminal
43	WVEL	O	Double velocity status signal output terminal ("H": double) (Not used, open)
44	ARF	I	RF signal input terminal
45	IREF	I	Reference current input terminal
46	DRF	I	DSL bias input terminal
47	DSL2	I/O	DSL loop filter terminal
48	PLL2	I/O	PLL loop filter terminal
49	VCOF	—	VCO loop filter terminal(Not used, connected to GND)
50	AV _{DD2}	I	Power supply (analog circuit) terminal
51	AV _{SS2}	—	GND (analog circuit) terminal
52	EFM	O	EFM signal output terminal(Not used, open)

Pin No.	Mark	I/O Division	Function
53	PCK	O	PLL extract clock output terminal (fPCK=4.321 MHz: normal play)(Not used, open)
54	VCOF2	—	VCO loop filter 2 terminal(Connected to GND)
55	SUBC	O	Sub-code serial data output terminal(Not used)
56	SBCK	I	Sub-code serial data clock input terminal (Connected to GND)
57	V _{SS}	—	GND terminal
58	X1 IN	I	Crystal oscillator input terminal(f=33.8688 MHz)
59	X2 OUT	O	Crystal oscillator output terminal(f=33.8688 MHz)
60	V _{DD}	I	Power supply (oscillation circuit) terminal
61	BYTCK	O	Byte clock output terminal (Not used, open)
62	/CLDCK	O	Sub-code frame clock signal output terminal (fCLDCK=7.35 kHz: normal play) (Not used)
63	FCLK	O	Crystal frame clock signal output terminal (fCLK=7.35 kHz, double velocity 14.7 kHz) (Not used, open)
64	IPFLAG	O	Data error flag output terminal("H": interpolation) (Not used, open)
65	FLAG	O	Flag output terminal (Not used, open)
66	CLVS	O	Spindle servo phase synchro signal output terminal ("H": CLV, "L": Rough servo) (Not used, open)
67	CRC	O	Sub-code CRC check output terminal("H": ON, "L": NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output terminal ("H": ON) (Not used, open)
69	RESY	O	Re-synchronizing signal of frame sync.output terminal (Not used, open)
70	IOSEL	I	Power supply (digital circuit) terminal
71	/TEST	I	Test input terminal (Connected to power supply)
72	AV _{DD1}	I	Power supply (analog circuit) terminal
73	OUTL	O	L ch audio signal output terminal
74	AV _{SS1}	—	GND terminal
75	OUTR	O	R ch audio signal output terminal
76	RSEL	I	RF signal polarity designation input terminal (Connected to power supply)
77	IOVDD	I	Crystal oscillator frequency designation input terminal(Connected to power supply)
78	PSEL	I	Test input terminal(Usually:"H") (Connected to GND)
79	MSEL	I	Output frequency switching terminal of SMAC("H":SMCK=8.4672MHz, "L":SMCK=4.2336MHz) (Connected to GND)
80	SSEL	I	Output mode switching terminal of SUBQ("H":Q-code buffer using mode) (Connected to power supply)

• IC703(AN8739SBE2):FOCUS COIL/TRACKING COIL/
TRAVERSE MOTOR/ SPINDLE MOTOR DRIVE

Pin No.	Mark	I/O Division	Function
1	/RST	—	Reset output terminal (Not used, open)
2	NC	—	Not used
3	IN2	I	Motor driver (2) input terminal
4	PC2	I	PC2 (power cut) input terminal
5	NC	—	Not used

Pin No.	Mark	I/O Division	Function
6	IN1	I	Motor driver (1) input terminal
7	PVCC1	I	Power supply (for driver) terminal
8	PGND1	—	GND (for driver) terminal (1)
9	NC	—	Not used
10	D1-	O	Traverse motor driver (1) output terminal (-)
11	D1+	O	Traverse motor driver (1) output terminal (+)
12	D2-	O	Spindle motor driver (2) output terminal (-)
13	D2+	O	Spindle motor driver (2) output terminal (+)
14	D3-	O	Tracking coil signal output terminal (-)
15	D3+	O	Tracking coil signal output terminal (+)
16	D4-	O	Focus coil signal output terminal (-)
17	D4+	O	Focus coil signal output terminal (+)
18	NC	—	Not used
19	PGND2	—	GND (for driver) terminal (2)
20	PVCC2	I	Power supply (for driver) terminal (2)
21	VCC	I	Power supply terminal
22	VREF	I	Reference voltage input terminal
23	IN4	I	Motor driver (4) input terminal
24	IN3	I	Motor driver (3) input terminal
25	RSTIN	I	Reset input terminal (Connected to GND)
26	NC	—	Not used

• IC403(LC66358C4K97):SYSTEM CONTROL

Pin No.	Mark	I/O Division	Function
1	STR1	O	Key switch 1 det. terminal
2	STR2	O	Key switch 2 det. terminal
3	SVRST	O	Reset signal terminal of servo IC (IC702)
4	SUBQ	I	Sub-code data input terminal
5	GATE	O	Select signal output terminal (Not used, open)
6	NC	—	Not used, open
7	SQCK	O	Sub-code register clock output terminal
8	BLKCK	I	Sub-code block signal input terminal
9	DQSY	I	Reading permission terminal of data (Not used, connected to power supply)
10	LED STOP	O	LED drive signal terminal
11	LED PLAY	O	
12	HOLD	I	Not used, connected to power supply
13	/MLD	O	Command load signal terminal to IC702
14	MDATA	O	Command data signal terminal to IC702
15	TEST	—	Not used, connected to GND
16	V _{SS}	—	GND terminal
17	OSC1	I	Crystal oscillator connected terminal (f=4.19MHz)
18	NC	—	Not used, open
19			
20	OSC2	O	Crystal oscillator connected terminal (f=4.19MHz)
21	/RST	I	Reset signal input terminal
22	MCLK	O	Command clock output terminal to IC702
23	CHK MODE	I	Not used (Connected to power supply through resistor)
24	CLK CNT	O	Clock control signal output terminal (Not used, open)
25	CLK SPD	O	Communication clock velocity select input terminal

Pin No.	Mark	I/O Division	Function
26	CS	O	Communication request receiving signal terminal to FL drive/ system control IC
27	REQ	I	Communication request signal terminal to FL drive/ system control IC
28	DTI	I	Data input terminal from FL drive/ system control IC
29	DTO	O	Data output terminal to FL drive/ system control IC
30	NC	—	Not used, open
31	CLK	O	Clock terminal to FL drive/ system control IC
32	DISPLE D	—	Not used, open
33	CLOSE	O	Loading motor "CLOSE" command signal output terminal
34	OPEN	O	Loading motor "OPEN" command signal output terminal
35	CLOSE SW	I	Disc tray "CLOSE" det. switch signal input terminal
36	OPEN SW	I	Disc tray "OPEN" det. switch signal input terminal
37	REST SW	I	Rest position det. signal input terminal
38	STAT	I	Status signal terminal
39	V _{DD}	I	Power supply terminal
40	CDUNIT	I	Connected to power supply through register
41	MODEL	I	Connected to power supply through register
42	NC	—	Not used, open
43	NC	—	Not used, open
44	KEY0	I	Key switch 0 det. input terminal
45	KEY1	I	Key switch 1 det. input terminal
46	KEY2	I	Key switch 2 det. input terminal
47	SPEED	O	PLL filter of CD unit select output terminal
48	STR0	O	Key switch 0 det.output terminal

14 Replacement Parts List

Notes:

Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fireretardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)

*Resistance value are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	SL-HD301 only
1	RHD30073-K	SCREW	4	SL-HD501 ONLY
2	RKM0398A-S	CABINET	1	SL-HD301 ONLY
2	RKM0398-S	CABINET	1	SL-HD501 ONLY
3	XTBS3+8JFZ1	SCREW	7	
4	REX0898	CONNECTOR ASS'Y (6P)	1	
5	REZ1056-2	FFC (23P)	1	
6	RKA0076-N2	FOOT	4	
6-1	RKA0083-K	CUSHION	4	
7	XTB3+6G	SCREW	4	
8	RFKGLHD301EN	FRONT PANEL ASS'Y	1	SL-HD301 ONLY
8	RFKGLHD501EN	FRONT PANEL ASS'Y	1	SL-HD501 ONLY
9	RGK0821-S	SIDE ORNAMENT (L)	1	SL-HD301 ONLY
9	RGK1138-N	SIDE ORNAMENT (L)	1	SL-HD501 ONLY
10	RGK0822-S	SIDE ORNAMENT (R)	1	SL-HD301 ONLY
10	RGK1139-N	SIDE ORNAMENT (R)	1	SL-HD501 ONLY
11	RGL0335-1Q	PANEL LIGHT	1	
12	RGU1743-S	BUTTON	1	
13	XQN26+AJ6FZ	SCREW	9	
14	RYQ0203A-S	TRAY ORNAMENT	1	
15	XTB3+12JFZ	SCREW	1	
16	XTB3+18JFZ	SCREW	4	
17	RGK0817-1M	SIDE PANEL (L)	1	SL-HD501 ONLY
18	RGK0818-1M	SIDE PANEL (R)	1	SL-HD501 ONLY
101	RFKJXDT07-K	LOADING CHASSIS ASS'Y	1	
101A	RDG0142	LOADING GEAR	1	
101B	RDG0193	DRIVE GEAR (A)	1	
101C	RDP0065	PULLEY	1	
102	REM0019	LOADING MOTOR ASS'Y	1	
104	RGQ0144-K	DISC TRAY	1	
105	RAE01522-1	TRAVERSE DECK ASS'Y	1	
105A	SHGD113-1	FLOATING RUBBER	3	
105B	SNSD38	SCREW	2	
106	RMS0350-1	PIN (B)	1	
107	RMS0627	PIN (A)	1	
108	RME0109	SPRING (A)	2	
109	RME0142	SPRING (B)	1	
110	RMR0698-K	TRAVERSE CHASSIS	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
111	XTV2+6G	SCREW	2	
112	RME0063	LOCK LEVER SPRING	1	
113	RMM0079-1	SLIDE PLATE (1)	1	
114	RML0178-1	LOCK LEVER	1	
115	RFKNLPG440-K	DRIVE GEAR (B) ASS'Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087	SPRING	1	
118	RML0349	CONVERSION LEVER	1	
119	RMM0059-1	SLIDE PLATE (2)	1	
120	RMR0334	MAGNET HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	DISC HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS'Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	
C401	ECUV1H102KBN	50V 1000P	1	
C402	ECUV1E104ZFN	25V 0.1U	1	
C403	ECEA0JKS101	6.3V 100	1	
C405	ECUV1E104ZFN	25V 0.1U	1	
C406	ECEA1HKS3R3	50V 3.3U	1	
C409	ECUV1E103ZFN	25V 0.01U	1	
C410	ECA1CM471	16V 470U	1	
C412,13	ECUV1E103ZFN	25V 0.01U	2	
C416	ECEA1AKS220	10V 22U	1	
C419	ECEA1AKS221	6.3V 220	1	
C420	ECEA1AKS221	10V 220U	1	
C425	ECUV1E103ZFN	25V 0.01U	1	
C426	ECUV1H101JCN	50V 100P	1	
C428	ECUV1E104ZFN	25V 0.1U	1	
C467	ECUV1C474ZFN	16V 0.47	1	
C468	ECEA1AKS221	6.3V 220U	1	
C493,94	ECUV1H102KBN	50V 1000P	2	
C499	ECUV1H102KBN	50V 1000P	1	
C701	ECEA0JKA330I	6.3V 33U	1	
C702	ECUZNE104MBN	25V 0.1U	1	
C703	ECEA0JKS101	6.3V 100U	1	
C704	ECUZNE104MBN	25V 0.1U	1	
C706	ECUV1H272KBN	50V 2700P	1	
C707	ECUV1E273KBN	25V 0.027U	1	
C710	ECUV1H121KCN	50V 120P	1	
C711,12	ECUWNE104ZFN	25V 0.1U	2	
C713	ECUZNE104MBN	25V 0.1U	1	
C714	ECEA0JKS101	6.3V 100U	1	
C715	ECUV1H272KBN	50V 2700P	1	
C716	ECUV1H821KBN	50V 820P	1	
C717	ECUWNE104ZFN	25V 0.1U	1	
C718	ECUV1E104KBN	25V 0.1U	1	
C721,22	ECUV1H030CCN	50V 3P	2	
C723	ECEA1AKS221	10V 220U	1	
C724	ECUZNE104MBN	25V 0.1U	1	
C725,26	ECUE1H102KBN	50V 1000P	2	
C727,28	ECEA1HKS010	50V 1U	2	
C730	ECUWNE104ZFN	25V 0.1U	1	
C731,32	ECEA1AKS221	6.3V 220U	2	
C733	ECUZNE104MBN	25V 0.1U	1	
C734	ECEA1AKS221	10V 220U	1	
C735-37	ECUWNE104ZFN	25V 0.1U	3	
C738	ECUE1H103KBN	50V 0.01U	1	
C739	ECUE1H152KBN	50V 1500P	1	
C742	ECUV1E273KBN	25V 0.027U	1	
C743	ECUWNE104ZFN	25V 0.1U	1	
C744	ECUE1E822KBN	25V 8200P	1	
C745	ECUE1H102KBN	50V 1000P	1	
C747	ECUV1H181KCN	50V 180P	1	
C749	ECUE1H222KBN	50 2200P	1	
C750,51	ECUZNE104MBN	25V 0.1U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C752	ECUE1H102KBN	50V 1000P	1	
C753	ECUV1H471KBM	50V 470P	1	
C754	ECUE1H471KBN	50V 470P	1	
C760	ECUV1E104KBN	25V 0.1U	1	
C790	ECA1AKF820	10V 82U	1	
CN401	RJP6G18ZA	CONNECTOR (6P)	1	
CN402	RJS1A6823	CONNECTOR (23P)	1	
CN403	RJS1A6606	CONNECTOR (6P)	1	
CN404	RJS1A6604	CONNECTOR (4P)	1	
CN701	RJU035T016-1	CONNECTOR (16P)	1	
CN702	RJS1A6723-1Q	CONNECTOR (23P)	1	
CP790	RJP6G17ZA	CONNECTOR (6P)	1	
D404 △	MA8082M	DIODE	1	
D405	MA8039LTX	DIODE	1	
D409-11	MA111TX	DIODE	3	
D420	MA728TX	DIODE	1	
D478	MA111TX	DIODE	1	
D801	SPR-305MDTF	L.E.D.	1	
IC400 △	UPC29M33T	IC	1	
IC401 △	LM2940T5	IC	1	
IC402	T0TX178	IC	1	
IC403	LC66358C4K97	IC	1	
IC409	TC74HCT7007A	IC	1	
IC701	AN8839NSBE2	IC	1	
IC702	MN662790RSA	IC	1	
IC703	AN8739SBE2	IC	1	
IC790	TA7291S	IC	1	
JK401	RJT065K19	SYSTEM CONNECTOR (19P)	1	
L402	RLBN300AV-W	COIL	1	
L406	RLBN601V-W	COIL	1	
L408	RLBN601V-W	COIL	1	
L409	RLQP1R0KT1-Y	COIL	1	
L701,02	RLBN102V-Y	COIL	2	
Q401	2SC4081STX	TRANSISTOR	1	
Q402	DTC143EUT106	TRANSISTOR	1	
Q403	2SC4081STX	TRANSISTOR	1	
Q404	DTC114YUT106	TRANSISTOR	1	
Q405 △	2SD2137PQTA	TRANSISTOR	1	
Q408,09	DTA143XUT106	TRANSISTOR	2	
Q411	DTC143EUT106	TRANSISTOR	1	
Q415	2SC4081STX	TRANSISTOR	1	
Q701	2SB709S	TRANSISTOR	1	
Q702	DTC143XUA106	TRANSISTOR	1	
R403	ERJ6GEYJ102Z	1/10W 1K	1	
R405,06	ERJ6GEYJ103V	1/10W 10K	2	
R407	ERJ6GEYJ223V	1/10W 22K	1	
R409	ERJ8GEYJ103V	1/8W 10K	1	
R410	ERJ6GEYJ103V	1/10W 10K	1	
R414	ERJ8GEYJ472V	1/8W 4.7K	1	
R415	ERJ6GEYJ105	1/10W 1M	1	
R416	ERJ6GEYJ103V	1/10W 10K	1	
R423	ERJ8GEYJ472V	1/8W 4.7K	1	
R427	ERJ6GEYJ472V	1/10W 4.7K	1	
R428	ERJ6GEYJ103V	1/10W 10K	1	
R430	ERJ6GEYJ104V	1/10W 100K	1	
R433	ERJ6GEYJ472V	1/10W 4.7K	1	
R439	ERJ8GEYJ101V	1/8W 100	1	
R440	ERJ8GEYJ102V	1/8W 1K	1	
R441 △	ERQ16NKR22E	1/6W 0.22	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R442 △	ERDS1FJ181	1/2W 180	1	
R443 △	ERD2FCJ6R8	1/4W 6.8	1	
R450,51	ERJ6GEYJ472V	1/10W 4.7K	2	
R452	ERJ6GEYJ331V	1/10W 330	1	
R455,56	ERJ6GEYJ102Z	1/10W 1K	2	
R458	ERJ6GEYJ102Z	1/10W 1K	1	
R459,60	ERJ6GEYJ224V	1/10W 220K	2	
R470	ERJ8GEYJ103V	1/8W 10K	1	
R471	ERJ6GEYJ331V	1/10W 330	1	
R473	ERJ6GEYJ331V	1/10W 330	1	
R474	ERJ6GEYJ392V	1/10W 3.9K	1	
R475-77	ERJ6GEYJ272V	1/10W 2.7K	3	
R478	ERJ8GEYJ222V	1/8W 2.2K	1	
R479	ERJ6GEYJ272V	1/10W 2.7K	1	
R480	ERJ8GEYJ103V	1/8W 10K	1	
R498	ERJ6GEYJ472V	1/10W 4.7K	1	
R701	ERJ6GEYJ4R7V	1/10W 4.7	1	
R702	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ102A	1/10W 1K	1	
R705	ERJ6GEYJ154V	1/10W 150K	1	
R706	ERJ6GEYJ102A	1/10W 1K	1	
R707,08	ERJ6GEYJ223Z	1/10W 22K	2	
R709	ERJ6GEYJ683Z	1/10W 68K	1	
R711	ERJ6GEYJ823	1/10W 82K	1	
R712	ERJ8GEYJ221V	1/8W 220	1	
R714	ERJ6GEYJ682V	1/10W 6.8K	1	
R715	ERJ6GEYJ102A	1/10W 1K	1	
R717,18	ERJ6GEYJ102A	1/10W 1K	2	
R721	ERJ6GEYJ101V	1/10W 100	1	
R723	ERJ6GEYJ682V	1/10W 6.8K	1	
R724	ERJ6GEYJ183V	1/10W 18K	1	
R725	ERJ6GEYJ391V	1/10W 390	1	
R727	ERJ6GEYJ472V	1/10W 4.7K	1	
R728,29	ERJ6GEYJ392V	1/10W 3.9K	2	
R731	ERJ6GEYJ682V	1/10W 6.8K	1	
R735,36	ERJ6GEYJ101V	1/10W 100	2	
R741	ERJ6GEYJ473V	1/10W 47K	1	
R742	ERJ6GEYJ224Z	1/10W 220K	1	
R744	ERJ6GEYJ124V	1/10W 120K	1	
R749	ERJ6GEYJ472V	1/10W 4.7K	1	
R753	ERJ6GEYJ100	1/10W 10	1	
R754	ERJ8GEYJ100V	1/8W 10	1	
RJ501-03	ERJ6GEY0R00	1/10W 0	3	
RJ508-11	ERJ6GEY0R00	1/10W 0	4	
RJ514	ERJ6GEY0R00	1/10W 0	1	
RJ601-10	ERJ8GEY0R00V	1/8W 0	10	
RJ614	ERJ8GEY0R00V	1/8W 0	1	
RJ616-19	ERJ8GEY0R00V	1/8W 0	4	
RJ621-23	ERJ8GEY0R00V	1/8W 0	3	
RJ625	ERJ8GEY0R00V	1/8W 0	1	
RJ627-31	ERJ8GEY0R00V	1/8W 0	5	
RJ701	ERJ6GEY0R00A	1/10W 0	1	
RJ702-10	ERJ8GEY0R00A	1/8W 0	9	
RJ712-14	ERJ8GEY0R00A	1/8W 0	3	
RJ716,17	ERJ8GEY0R00A	1/8W 0	2	
RJ721,22	ERJ6GEY0R00A	1/10W 0	2	
RJ724	ERJ6GEY0R00A	1/10W 0	1	
RJ726-28	ERJ6GEY0R00A	1/10W 0	3	
RJ731,32	ERJ6GEY0R00A	1/10W 0	2	
RJ734,35	ERJ6GEY0R00A	1/10W 0	2	
RJ750	ERJ6GEY0R00A	1/10W 0	1	
RJ802,03	ERJ6GEY0R00	1/10W 0	2	
RJ901-08	ERJ6GEY0R00	1/10W 0	8	
S701	RSH1A043-U	SW REST	1	
S790,91	RSH1A005	SW COVER OPEN/CLOSE DET.	2	
S801-09	EVQ21405R	SW PUSH	9	
SA1	SZZP1054C	PLAYABILITY TEST DISC	1	

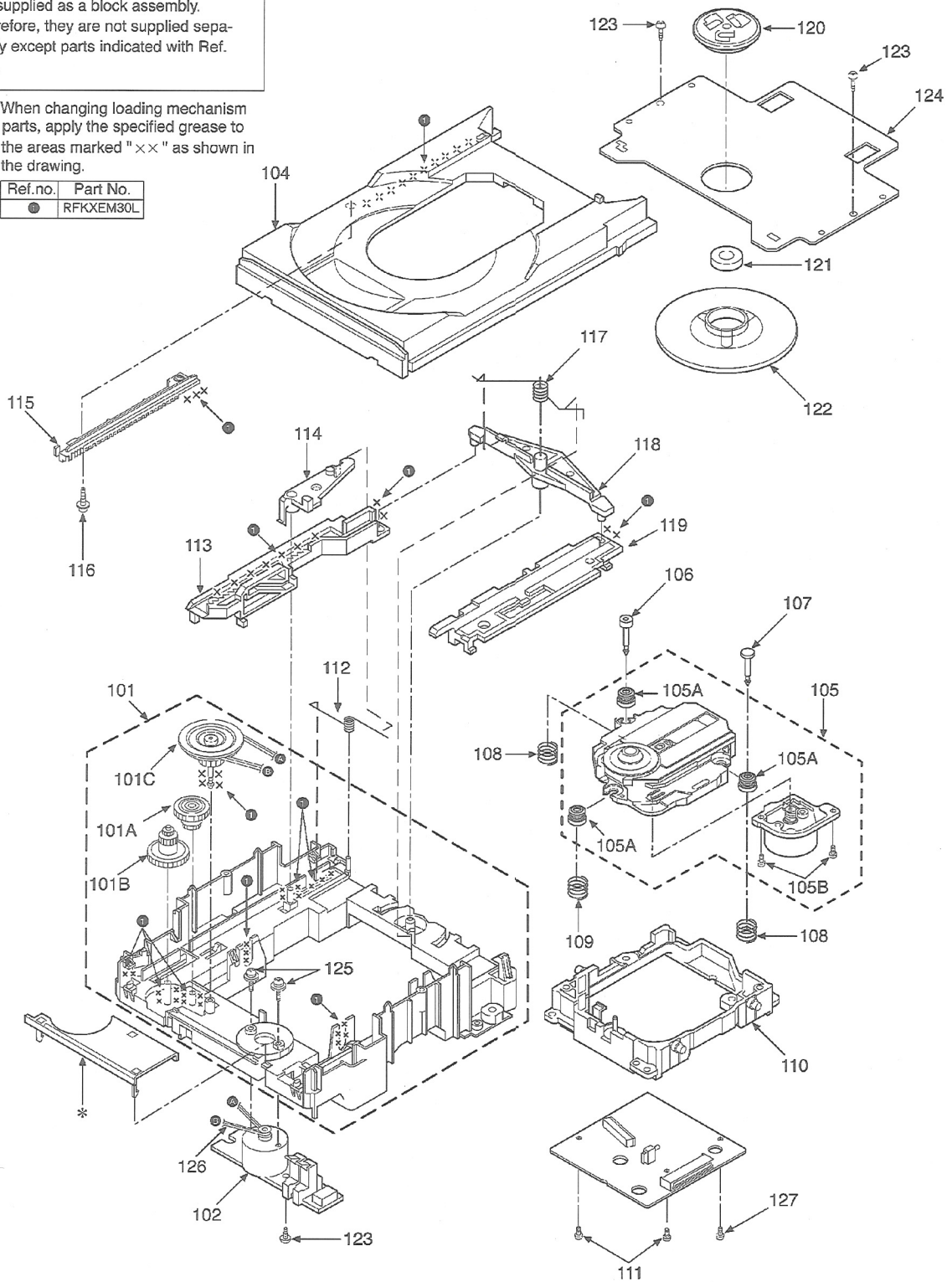
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
SA2	RFKXEM30L	GREASE EM30L	1	
TJ701	EYF8CU	TEST JUMPER	1	
X401	EF0EC4194A4	OSCILLATOR	1	
X701	RSXB33M8J01T	OSCILLATOR	1	

15 Loading Mechanism Parts Location

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref. No. .

Note: When changing loading mechanism parts, apply the specified grease to the areas marked "x" as shown in the drawing.

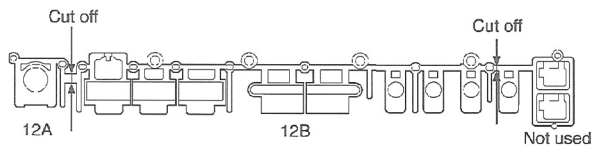
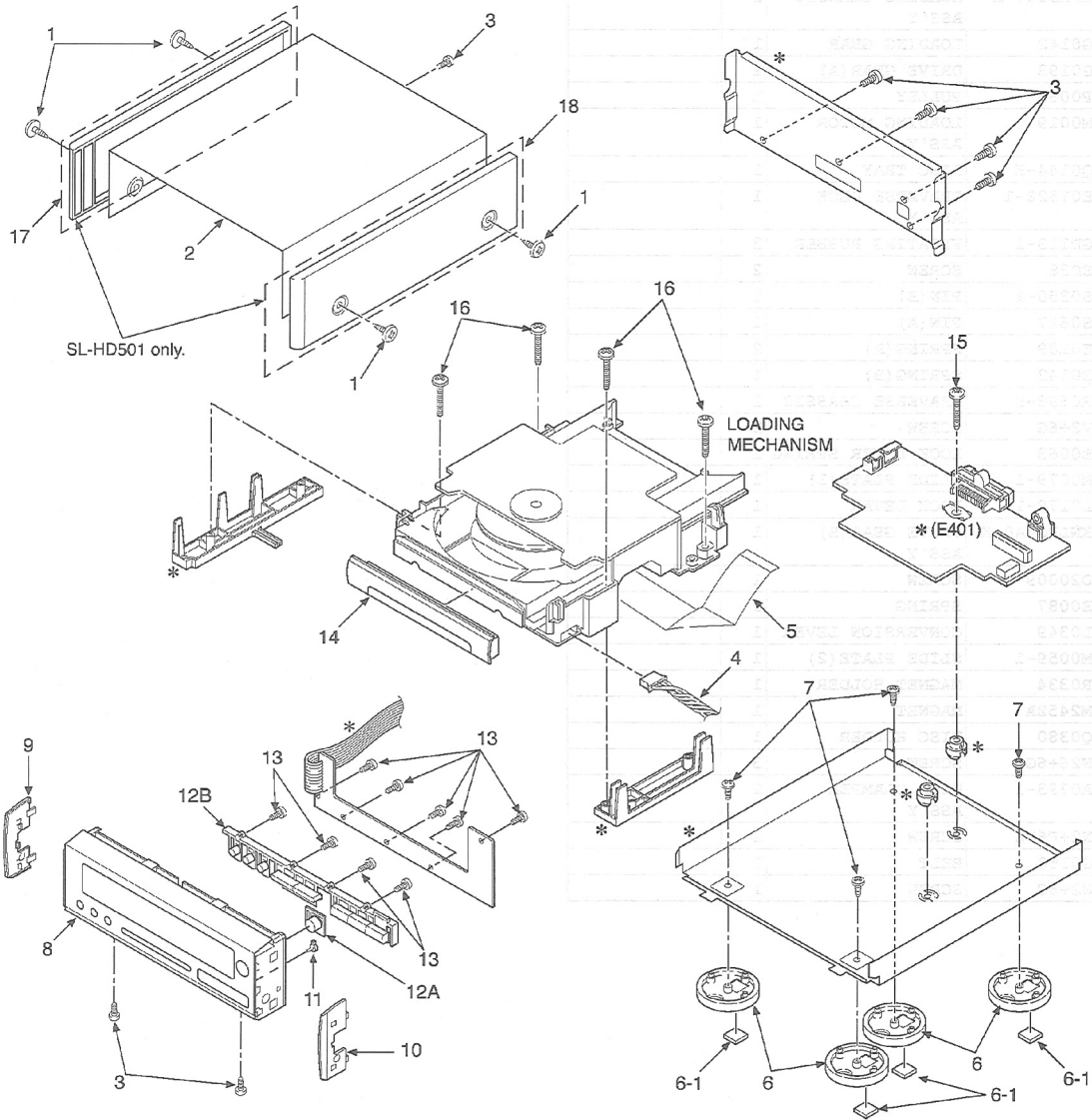
Ref.no.	Part No.
●	RFKXEM30L



Note: We do not supply those items of parts marked *.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
101	RFKJXDT07-K	LOADING CHASSIS ASS'Y	1	
101A	RDG0142	LOADING GEAR	1	
101B	RDG0193	DRIVE GEAR (A)	1	
101C	RDP0065	PULLEY	1	
102	REM0019	LOADING MOTOR ASS'Y	1	
104	RGQ0144-K	DISC TRAY	1	
105	RAE0152Z-1	TRAVERSE DECK ASS'Y	1	
105A	SHGD113-1	FLOATING RUBBER	3	
105B	SNSD38	SCREW	2	
106	RMS0350-1	PIN (B)	1	
107	RMS0627	PIN (A)	1	
108	RME0109	SPRING (A)	2	
109	RME0142	SPRING (B)	1	
110	RMR0698-K	TRAVERSE CHASSIS	1	
111	XTV2+6G	SCREW	2	
112	RME0063	LOCK LEVER SPRING	1	
113	RMM0079-1	SLIDE PLATE (1)	1	
114	RML0178-1	LOCK LEVER	1	
115	RFKNLPG440-K	DRIVE GEAR (B) ASS'Y	1	
116	RHD20009-1	SCREW	1	
117	RME0087	SPRING	1	
118	RML0349	CONVERSION LEVER	1	
119	RMM0059-1	SLIDE PLATE (2)	1	
120	RMR0334	MAGNET HOLDER	1	
121	RHM245ZA	MAGNET	1	
122	RXQ0380	DISC HOLDER	1	
123	XTN26+6G	SCREW	3	
124	RMA0793-1	DISC CLAMPER ASS'Y	1	
125	XYN2+F6FZ	SCREW	2	
126	RMG0158	BELT	1	
127	XTN2+6G	SCREW	1	

16 Cabinet parts Location



Note: We do not supply those items of parts marked *.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	SL-HD301 ONLY
1	RHD30073-K	SCREW	4	SL-HD501 ONLY
2	RKM0398A-S	CABINET	1	SL-HD301 ONLY
2	RKM0398-S	CABINET	1	SL-HD501 ONLY
3	XTBS3+8JFZ1	SCREW	7	
4	REX0898	CONNECTOR ASS'Y (6P)	1	
5	REZ1056-2	FFC (23P)	1	
6	RKA0076-N2	FOOT	4	
6-1	RKA0083-K	CUSHION	4	
7	XTB3+6G	SCREW	4	
8	RFKGLHD301EN	FRONT PANEL ASS'Y	1	SL-HD301 ONLY
8	RFKGLHD501EN	FRONT PANEL ASS'Y	1	SL-HD501 ONLY

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
9	RGK0821-S	SIDE ORNAMENT (L)	1	SL-HD301 ONLY
9	RGK1138-N	SIDE ORNAMENT (L)	1	SL-HD501 ONLY
10	RGK0822-S	SIDE ORNAMENT (R)	1	SL-HD301 ONLY
10	RGK1139-N	SIDE ORNAMENT (R)	1	SL-HD501 ONLY
11	RGL0335-1Q	PANEL LIGHT	1	
12	RGU1743-S	BUTTON	1	
13	XQN26+AJ6FZ	SCREW	9	
14	RYQ0203A-S	TRAY ORNAMENT	1	
15	XTB3+12JFZ	SCREW	1	
16	XTB3+18JFZ	SCREW	4	
17	RGK0817-1M	SIDE PANEL (L)	1	SL-HD501 ONLY
18	RGK0818-1M	SIDE PANEL (R)	1	SL-HD501 ONLY

ORDER NO. AD9902013C2

Service Manual

Amplifier

SE-HD301

Colour

(N).....Gold Type

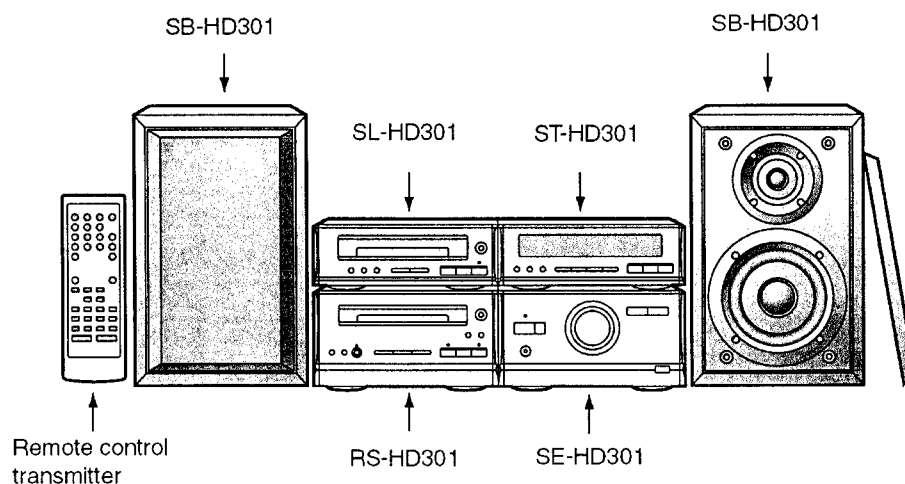
Areas

E.....Europe.

EG.....Germany and Italy, etc.

EB.....Great Britain.

System: SC-HD301



SPECIFICATIONS

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.

Specifications

■ Amplifier Section

Power output

DIN 1 kHz, THD 1%, both channels driven : 2 X 17W (6 ohm)

RMS 1 kHz, THD 10%, both channels driven: 2 X 20W (6 ohm)

Total harmonic distortion

Half power at 1 kHz: 0.09% (6 ohm)

Frequency response: 50Hz-20kHz(+1dB,-3dB)

S/N(rated power): 75dB

Load impedanced: 6 ohm

Headphones

Jack type: 3.5mm STEREO

Load impednaced : 16-32 ohm

■ General

Power consumption: 67W

STANDBY condition Normal: 9W
Eco:0.8W

Power supply

[For (EB) area]: 230-240V, AC 50Hz

[For (E, EG) areas]: 230V, AC 50Hz

Dimensions (WxHxD): 186 x 104 x 270 mm

Weight: 2.9 kg

Notes:

1. Specifications are subject to change without notice.
2. Dimensions and Weight are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

System/SC-HD301:

Tuner: ST-HD301, Compact Disc Player: SL-HD301, **Amplifier: SE-HD301**, Cassette Deck: RS-HD301, Speakers: SB-HD301 (Made in PAES.)

1

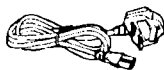
WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

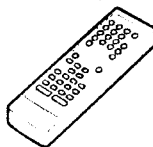
Technics®

1. Accessories

· AC power supply cord 1 pc.
For (EB) area: (RJA0053-2X)
For (E, EG) areas: (RJA0019-X)



· Remote control transmitter 1 pc.
(RAK-HDA07WH)



· Speaker cords 2 pcs.
(REE0499)



· Remote control batteries 2 pcs.
[(R6/LR6 (AA, UM-3))]
Note: These are available on sales route.



· AM loop antenna set (RSA0021)
AM loop antenna 1 pc.
Antenna holder with stand 1 pc.



Antenna holder 1 pc.
Screw 1 pc.



· FM indoor antenna 1 pc.
(RSA0007)



· Antenna plug adaptor 1 pc.
For (EB) area only:
(SJP9009)



2. Before Repair and Adjustment

1. Turn off the power supply. Using a 10Ω , 10W resistor, connect both ends of power supply capacitors (C102-105, 127) in order to discharge the voltage.
2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V/240 V.

Area	(E) (EG)		(EB)	
Power supply voltage	AC 230V		AC 240V	
Consumed current 50 Hz	50 Hz	30-140 mA	50 Hz	30-140 mA

3. Caution for AC Main Lead



4. Operating Instructions



5. Operation Checks and Component Replacement Procedures

- NOTE**
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
 2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
 3. Select item from the following index when checks or replacement are required.

• Contents

■ Checking Procedures for each P.C.B.

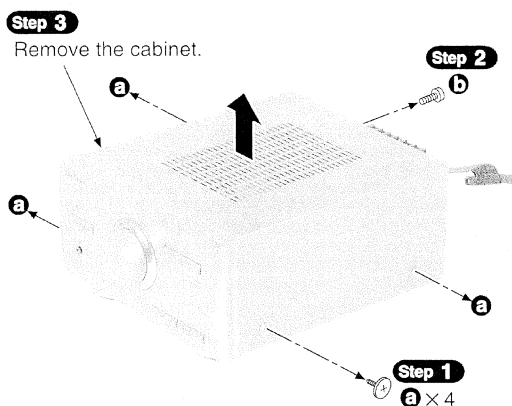
1. Checking for the AC IN P.C.B. and relay P.C.B..
2. Checking for the operation P.C.B..
3. Checking for the main P.C.B..

■ Main Component Replacement Procedures

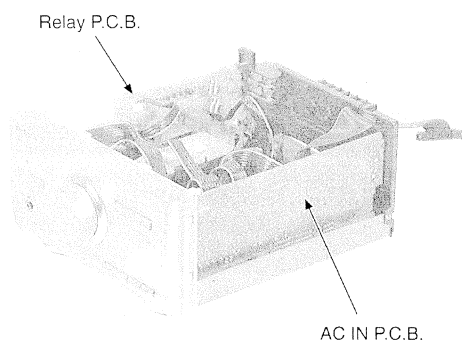
1. Replacement for the power IC.

■ Checking Procedures for each P.C.B.

1. Checking for the AC IN P.C.B. and relay P.C.B.

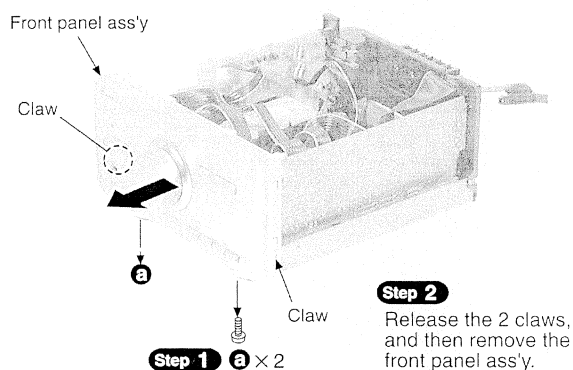


- Check the AC IN P.C.B. and relay P.C.B. as shown below.

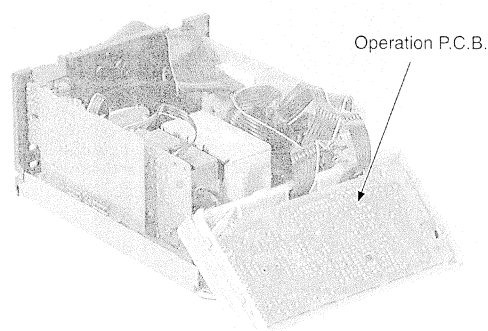


2. Checking for the operation P.C.B.

- Follow the **Step 1** ~ **Step 3** of the item 1 in checking procedure for each P.C.B..

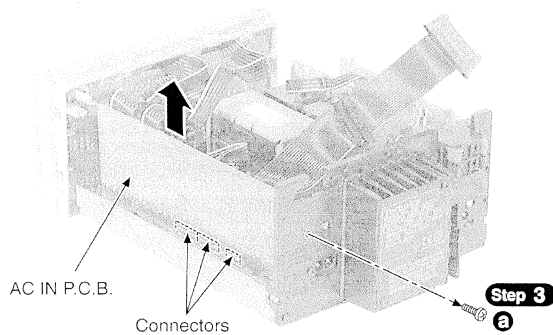
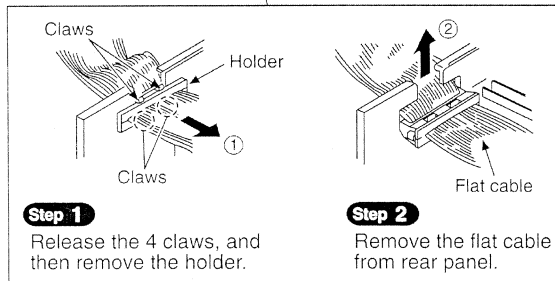
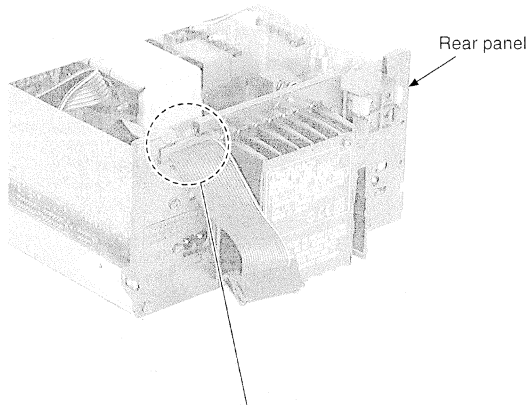


- Check the operation P.C.B. as shown below.

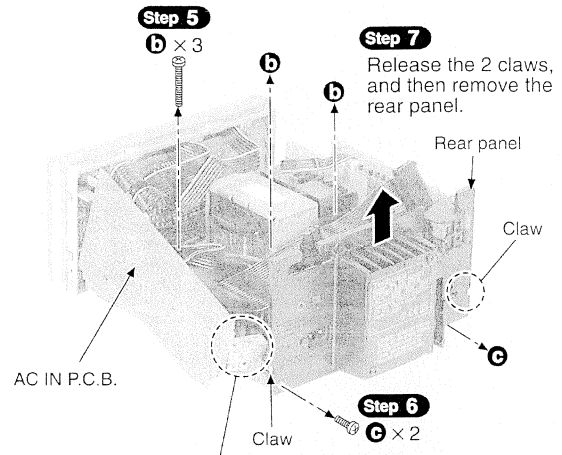


3. Checking for the main P.C.B.

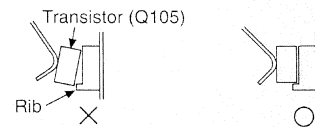
- Follow the **Step 1** ~ **Step 3** of the item 1 in checking procedure for each P.C.B..
- Follow the **Step 1** , **Step 2** of the item 2 in checking procedure for each P.C.B..



Step 4
Remove the AC IN P.C.B. upward with care to prevent damage to the connectors.

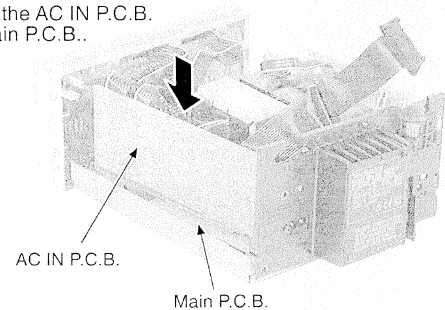


■ Notice for installation of AC IN P.C.B.

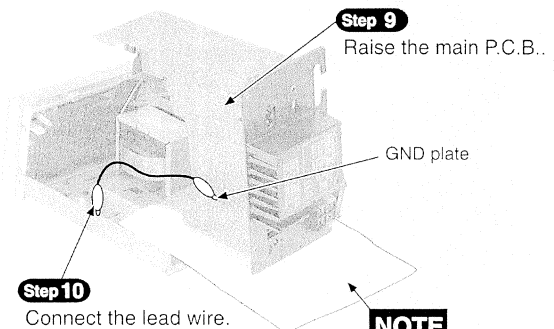


- Use care that the transistor (Q105) is not located on the rib as shown above.
- Apply the compound grease (No. RFXK0002 or equivalent material) on the back side of transistor (Q105).
- Use care to prevent applying the grease on the lead wire or other parts.

Step 8
Reinstall the AC IN P.C.B. to the main P.C.B..



• Check the main P.C.B. as shown below.

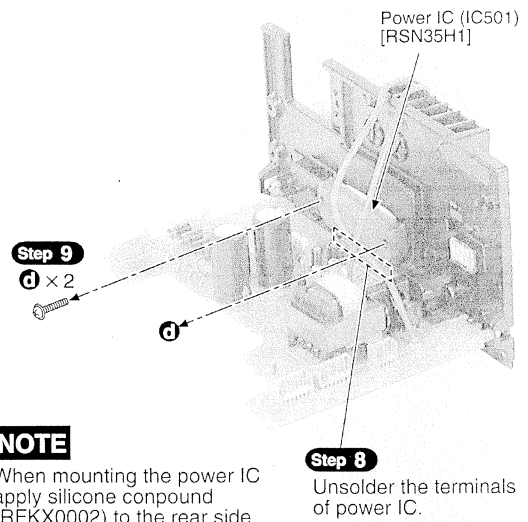
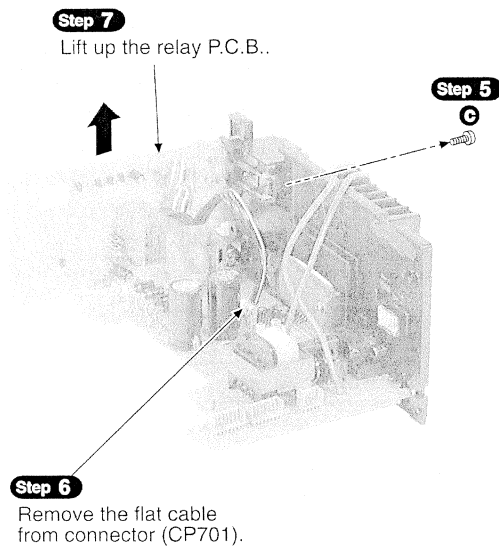
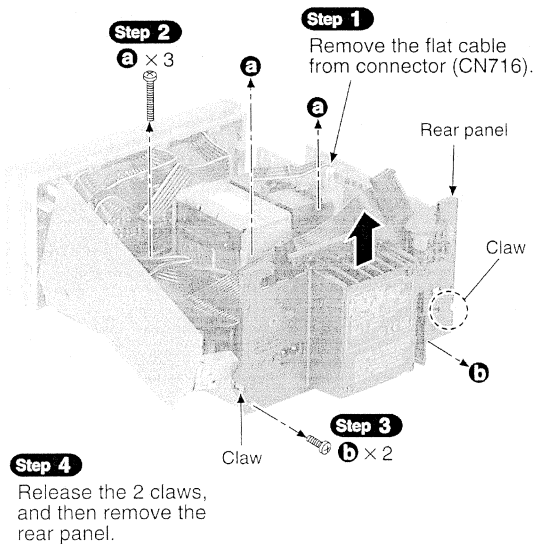


NOTE
Insulate main P.C.B. with insulation material to avoid short-circuit.

■ Main Component Replacement Procedures

1. Replacement for the power IC

- Follow the **Step 1** ~ **Step 3** of the item 1 in checking procedure for each P.C.B..
- Follow the **Step 1** , **Step 2** of the item 2 in checking procedure for each P.C.B..
- Follow the **Step 1** ~ **Step 4** of the item 3 in checking procedure for each P.C.B..



NOTE

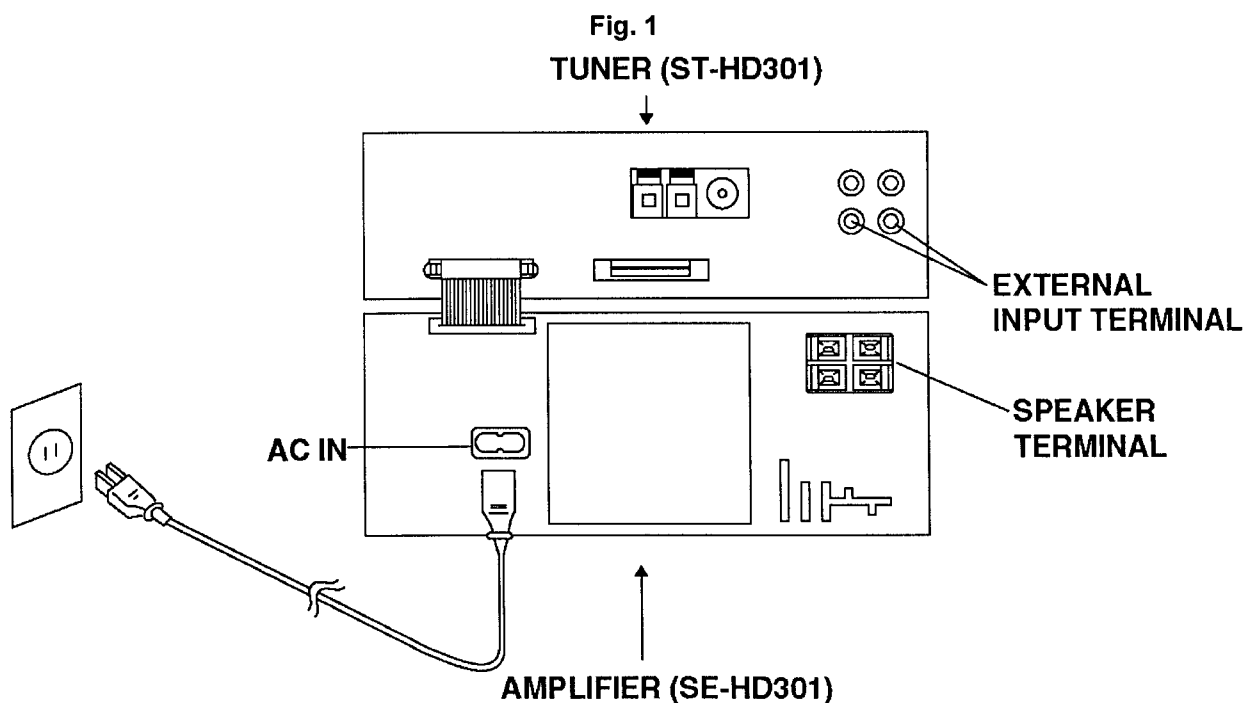
When mounting the power IC apply silicone compound (RFKX0002) to the rear side of power IC.

6. Power Source ON/OFF and Signal Check

To operate this unit SE-HD301 normally, it is necessary for connecting with the unit ST-HD301.

When operating the unit SE-HD301, be sure to connect the unit ST-HD301 with included connection cable.

1. Connect with the Tuner (ST-HD301). (As shown in Fig. 1)
2. Connect the AC mains lead to Amplifier (SE-HD301). (As shown in Fig. 1)
3. Connect the speakers to speaker terminal. (As shown in Fig. 1)
4. Turn on the power of the Amplifier (SE-HD301).
5. Press INPUT SELECTOR to select the external source (EXT/MD) of the Amplifier (SE-HD301).
6. Input a sound signal to external input terminal of Tuner (ST-HD301), and confirm to be outputted from the speaker.



7. Schematic Diagram Notes

7.1. Type Illustration of IC's, Transistors and Diodes

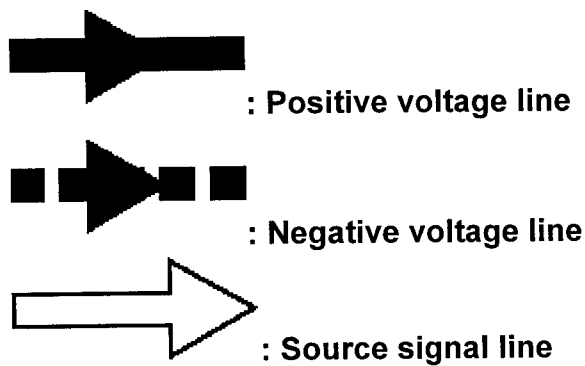


7.2. Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S301: Power "STANDBY  / ON" switch in "OFF" position.
- S302: Eco mode switch in "OFF" position.
- S303: Source input select control () switch.
- S304: Source input select control () switch .
- S305: Treble+ (TREBLE+) switch.
- S306: Treble- (TREBLE-) switch.
- S307: Bass+ (BASS+) switch.
- S308: Bass -(BASS-) switch.
- VR301: Main control V.R.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
No mark: Power ON
- Important safety notice:
Components identified by  mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- Caution!
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.
- Voltage and signal lines



8. Schematic Diagram



9. Printed Circuit Board Diagram



10. Block Diagram



11. Wiring Connection Diagram



12. Replacement Parts List

Notes:

* Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

* The parenthesized indications in the Remarks columns specify the areas. Parts without these indications can be used for all areas.

* Remote Control Ass'y: Supply period for three years from terminal of production.

* Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF), F=Farads (F)

* Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)

* "<IA>, <IB>, <IC>, <ID>" marks in Remarks indicate languages of instruction manual.

[<IA>: Germany/Italian/French, <IB>: Dutch/Danish, <IC>: English/Spanish, <ID>: English]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0397B-S	CABINET	1	
3	XTBS3+10JFZ1	SCREW	1	
4	XTB3+8JFZ	SCREW	3	
5	RGH0154B-K	NAME PLATE	1	(E)(EG)
5	RGH0154C-K	NAME PLATE	1	(EB)
6	RGW0318-S	KNOB VOLUME	1	
7	RKA0076-N1	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+6G	SCREW	4	
9	RFKGEHD301EN	FRONT PANEL ASS'Y	1	
10	RGK0812-S	SIDE ORNAMENT(L)	1	
11	RGK0813-S	SIDE ORNAMENT(R)	1	
12	RGK0815A-N	VOLUME ORNAMENT	1	
13	RGU1750-S	BUTTON	1	
14	RGU1751-S	BUTTON	1	
15	RHD26016	SCREW	1	
16	RHN90001	NUT	1	
17	XTBS26+8J	SCREW	5	
18	XTBS3+8JFZ1	SCREW	11	
19	XTB3+12FFZ	SCREW	1	
20	XTB3+20JFZ	SCREW	3	
21	XTW3+15T	SCREW	3	
22	REX0962	FLAT CABLE(20P)	1	
27	RMV0186	BARRIER	1	
A1	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
A2	REE0499	SPEAKER CORD	2	
A3	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)
				
A3	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
				

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A4	RQA0117	WARRANTY CARD	1	
A5	RQCB0169	SERVICENTER LIST	1	
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)<ID>
A6	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A7	RSA0007	FM INDOOR ANTENNA	1	
A8	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
A10	SJP9009	AC PLUG ADAPTOR	1	(EB)
				
C101	RCE1EM471BV	25V 470U	1	
				
C102	ECA2AM470	100V 47U	1	
				
C103	ECA1EM101	25V 100U	1	
				
C104,05	ECA1HM470B	50V 47U	2	
				
C106	ECBT1E103ZF	25V 0.01U	1	
C107	RCE1AKA470BG	10V 47U	1	
C108	RCE1VKA100BG	35V 10U	1	
C109	RCE1AKA470BG	10V 47U	1	
C110	ECEA1VKS470	35V 47U	1	
C111,12	ECKR1H103ZF5	50V 0.01U	2	
C113	ECBT1E103ZF	25V 0.01U	1	
C114	ECA1EM101	25V 100U	1	
C115	ECA1EM222	25V 2200U	1	
				
C116	RCE1EM471BV	25V 470U	1	
				
C117	ECBT1E103ZF	25V 0.01U	1	
C118,19	RCE1CKA100BG	16V 10U	2	
C120	ECA1EM101	25V 100U	1	
				
C121,22	ECBT1E103ZF	25V 0.01U	2	
C123,24	ECEA1EKS4R7	25V 4.7U	2	
C125	ECBT1E103ZF	25V 0.01U	1	
C126	ECA1HM470B	50V 47U	1	
C127	ECEA1CKS101	16V 100U	1	
				
C128-30	ECBT1H101KB5	50V 100P	3	
C301,02	ECBT1H473ZF5	50V 0.047U	2	
C303	ECEA1AKS221	6.3V 220U	1	
C304	ECEA0JKS101	6.3V 100U	1	
C305,06	ECBT1E103ZF	25V 0.01U	2	
C307-10	ECBT1H101KB5	50V 100P	4	
C311,12	ECEA1HKS010	50V 1U	2	
C313,14	ECBT1H331KB5	50V 330P	2	
C315,16	ECEA1EKS4R7	25V 4.7U	2	
C317,18	ECBT1E103ZF	25V 0.01U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C319	ECBT1H101KB5	50V 100P	1	
C501	ECEA1CKN4R7	16V 4.7U	1	
C503,04	RCE1HKA3R3BG	50V 3.3U	2	
C505,06	ECBT1C272KR5	16V 2700P	2	
C507,08	ECBT1C152KR5	16V 1500P	2	
C509	ECEA1HKA330B	50V 33U	1	
C510	ECEA1HSN2R2	50V 2.2U	1	
C511,12	ECBT1H330J5	50V 33P	2	
C515,16	RCE1HKA3R3BG	50V 3.3U	2	
C517,18	ECBT1H104ZF5	50V 0.1U	2	
C519	ECEA0JKS101	6.3V 100U	1	
C520	ECBT1E223ZF	25V 0.022U	1	
C523,24	ECBT1H473ZF5	50V 0.047U	2	
C525,26	ECBT1H102KB5	50V 1000P	2	
C549,50	ECBT1H104ZF5	50V 0.1U	2	
C701,02	ECA1VM332	35V 3300U	2	
				
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705	ECA1HM470B	50V 47U	1	
				
CN101	RJS2A5520-1	CONNECTOR(20P)	1	
CN102	RJS8T6ZA	CONNECTOR(8P)	1	
CN103	RJS6T6ZA	CONNECTOR(6P)	1	
CN104	RJU057W007	CONNECTOR(7P)	1	
CN105	RJU057W004	CONNECTOR(4P)	1	
CN106	RJU057W007	CONNECTOR(7P)	1	
CN303	RJU057W004	CONNECTOR(4P)	1	
CN701-10	RJS1A1101T1	CONNECTOR(1P)	10	
CN714,15	RJU057W007	CONNECTOR(7P)	2	
CN716	RJS4T6ZA	CONNECTOR(4P)	1	
CP104	RJT057W007-1	CONNECTOR(7P)	1	
CP105	RJT057W004-1	CONNECTOR(4P)	1	
CP106	RJT057W007-1	CONNECTOR(7P)	1	
CP303	RJT057W004-1	CONNECTOR(4P)	1	
CP701	RJS1A6604	CONNECTOR(4P)	1	
CP714,15	RJT057W007-1	CONNECTOR(7P)	2	
D101	MA4051M	DIODE	1	
D102-04	MA165	DIODE	3	
D105-10	RL1N4003N02	DIODE	6	
				
D111	MA4062M	DIODE	1	
				
D112	MA4240H	DIODE	1	
				
D113,14	1N5402BF	DIODE	2	
				
D115,16	RL1N4003N02	DIODE	2	
				

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D117 	MA4160M	DIODE	1	
D118 	MA4110M	DIODE	1	
D119,20 	RL1N4003N02	DIODE	2	
D121,22	MA165	DIODE	2	
D123,24 	RL1N4003N02	DIODE	2	
D125,26	MA165	DIODE	2	
D127 	RL1N4003N02	DIODE	1	
D128	MA165	DIODE	1	
D301,02 	MA4075M	DIODE	2	
D306	SLR-325VC	LED	1	
D307	MA165	DIODE	1	
D312,13 	MA4075M	DIODE	2	
D501	MA4150M	DIODE	1	
D701-04 	1N5402BF	DIODE	4	
D705,06 	RL1N4003N02	DIODE	2	
D707 	MA4051M	DIODE	1	
D708-10	MA165	DIODE	3	
D711-14 	RL1N4003N02	DIODE	4	
D715	MA165	DIODE	1	
F1 	XBA2C04TB0	FUSE	1	
F2 	XBA2C20TB0	FUSE	1	
FP701,02 	RSFMB40KT-L	FUSE PROTECTOR	2	
IC301	M5218AFPE3	IC	1	
IC501 	RSN35H1	IC	1	
JK301	RJJ37TN01-C	HEADPHONES	1	
JK501	RJR0054B	SPEAKER	1	
JK701 	SJS9236	JACKAC INLET	1	
L501,02	SLQY07G-40	COIL CHOKE	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L701 ⚠	RLQZ371	LINE FILTER	1	
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4392	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P4	RPG4322	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4323	PACKING CASE(SYSTEM)	1	(EB)
P4	RPG4321	PACKING CASE(SYSTEM)	1	(EG)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	
PT701 ⚠	RTP2M5E015	POWER TRANSFORMER	1	(EG)(E)
PT701 ⚠	RTP2M5B017	POWER TRANSFORMER	1	(EB)
PT702 ⚠	RTP1I3E001	POWER TRANSFORMER	1	
Q101 ⚠	2SD2374PQAU	TRANSISTOR	1	
Q102 ⚠	2SB621A-R	TRANSISTOR	1	
Q103	2SC3311ATA	TRANSISTOR	1	
Q104 ⚠	2SC3940AQSTA	TRANSISTOR	1	
Q105 ⚠	2SD2374PQAU	TRANSISTOR	1	
Q106 ⚠	2SC3327A	TRANSISTOR	1	
Q301,02	2SC3327A	TRANSISTOR	2	
Q303	UN4115	TRANSISTOR	1	
Q307,08	2SC3327A	TRANSISTOR	2	
Q501	UN4115	TRANSISTOR	1	
Q503,04	2SC3327A	TRANSISTOR	2	
Q508,09	2SC3311ATA	TRANSISTOR	2	
Q510	2SA1309ATA	TRANSISTOR	1	
Q511	2SC3311ATA	TRANSISTOR	1	
Q701,02	2SC3311ATA	TRANSISTOR	2	
R101	ERDS2FJ103	1/4W 10K	1	
R102	ERDS2FJ331	1/4W 330	1	
R104	ERDS2FJ101	1/4W 100	1	
R105,06 ⚠	ERDS2FJ100	1/4W 10	2	
R107	ERDS2FJ222	1/4W 2.2K	1	
R108	ERDS2FJ472	1/4W 4.7K	1	
R109	ERDS2FJ473	1/4W 47K	1	
R110	ERDS2FJ392	1/4W 3.9K	1	
R113	ERDS2FJ392	1/4W 3.9K	1	
R114	ERDS2FJ102	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R115	ERDS2FJ472	1/4W 4.7K	1	
R116	ERD25FVJ560T	1/4W 56	1	
				
R117	ERD2FCG100	1/4W 10	1	
				
R118-20	ERDS2FJ102	1/4W 1K	3	
R301	ERDS2FJ821	1/4W 820	1	
R302	ERDS2FJ102	1/4W 1K	1	
R303	ERDS2FJ122	1/4W 1.2K	1	
R304	ERDS2FJ152	1/4W 1.5K	1	
R305	ERDS2FJ182	1/4W 1.8K	1	
R306	ERDS2FJ222	1/4W 2.2K	1	
R307	ERDS2FJ332	1/4W 3.3K	1	
R308	ERDS2FJ102	1/4W 1K	1	
R309,10	ERDS1FJ221	1/2W 220	2	
				
R313,14	ERDS2FJ121	1/4W 120	2	
R315-18	ERDS2FJ470	1/4W 47	4	
R319,20	ERDS2FJ563	1/4W 56K	2	
R321,22	ERDS2FJ682	1/4W 6.8K	2	
R323,24	ERDS2FJ123	1/4W 12K	2	
R325	ERDS2FJ472	1/4W 4.7K	1	
R331,32	ERDS2FJ472	1/4W 4.7K	2	
R333,34	ERDS2FJ121	1/4W 120	2	
R336	ERDS2FJ121	1/4W 120	1	
R337-40	ERDS2FJ470	1/4W 47	4	
				
R504	ERDS2FJ105	1/4W 1M	1	
R505,06	ERDS2FJ222	1/4W 2.2K	2	
R507-10	ERDS2FJ103	1/4W 10K	4	
R511,12	ERDS2FJ101	1/4W 100	2	
R513,14	ERDS2FJ563	1/4W 56K	2	
R515	ERDS2FJ334	1/4W 330K	1	
R516	ERDS1FJ471	1/2W 470	1	
				
R517,18	ERDS2FJ2R2	1/4W 2.2	2	
				
R519,20	ERDS2FJ563	1/4W 56K	2	
R521	ERDS2FJ684	1/4W 680K	1	
R523,24	ERDS2FJ272	1/4W 2.7K	2	
R525,26	ERDS2FJ100	1/4W 10	2	
				
R527,28	ERDS1FJ100	1/2W 10	2	
				
R529	ERDS2FJ823	1/4W 82K	1	
R530	ERDS2FJ124	1/4W 120K	1	
R531	ERDS2FJ563	1/4W 56K	1	
R532	ERDS2FJ564	1/4W 560K	1	
R533	ERDS2FJ223	1/4W 22K	1	
R534	ERDS2FJ103	1/4W 10K	1	
R535	ERDS2FJ473	1/4W 47K	1	
R701	ERDS2FJ102	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R702	ERDS2FJ392	1/4W 3.9K	1	
R703	ERDS2FJ333	1/4W 33K	1	
R705	ERDS2FJ102	1/4W 1K	1	
R706	ERDS2FJ392	1/4W 3.9K	1	
R707	ERDS2FJ684	1/4W 680K	1	
R708	ERDS2FJ104	1/4W 100K	1	
R709	ERDS2FJ473	1/4W 47K	1	
RL101 ⚠	RSY0013M-0	RELAY	1	
RL701 ⚠	RSY0013M-0	RELAY	1	
RL702 ⚠	RSY0040M-0	RELAY	1	
S301-08	EVQ21405R	SW PUSH	8	
VR301	EVQVBXFK124B	V.R. VOLUME	1	
Z701 ⚠	ERZV10V511CS	COMPONENT COMBINATION	1	

13. Cabinet Parts Location



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0397B-S	CABINET	1	
3	XTBS3+10JFZ1	SCREW	1	
4	XTB3+8JFZ	SCREW	3	
5	RGH0154B-K	NAME PLATE	1	(E)(EG)
5	RGH0154C-K	NAME PLATE	1	(EB)
6	RGW0318-S	KNOB VOLUME	1	
7	RKA0076-N1	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+6G	SCREW	4	
9	RFKGEHD301EN	FRONT PANEL ASS'Y	1	
10	RGK0812-S	SIDE ORNAMENT(L)	1	
11	RGK0813-S	SIDE ORNAMENT(R)	1	
12	RGK0815A-N	VOLUME ORNAMENT	1	
13	RGU1750-S	BUTTON	1	
14	RGU1751-S	BUTTON	1	
15	RHD26016	SCREW	1	
16	RHN90001	NUT	1	
17	XTBS26+8J	SCREW	5	
18	XTBS3+8JFZ1	SCREW	11	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
19	XTB3+12FFZ	SCREW	1	
20	XTB3+20JFZ	SCREW	3	
21	XTW3+15T	SCREW	3	
22	REX0962	FLAT CABLE(20P)	1	
27	RMV0186	BARRIER	1	

14. Packaging



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A1	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
A2	REE0499	SPEAKER CORD	2	
A3	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)
A3	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
A4	RQA0117	WARRANTY CARD	1	
A5	RQCB0169	SERVICENTER LIST	1	
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)<ID>
A6	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A7	RSA0007	FM INDOOR ANTENNA	1	
A8	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
A10	SJP9009	AC PLUG ADAPTOR	1	(EB)
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4392	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P4	RPG4322	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4323	PACKING CASE(SYSTEM)	1	(EB)
P4	RPG4321	PACKING CASE(SYSTEM)	1	(EG)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	

Printed in Japan (H990306300KK/HH)

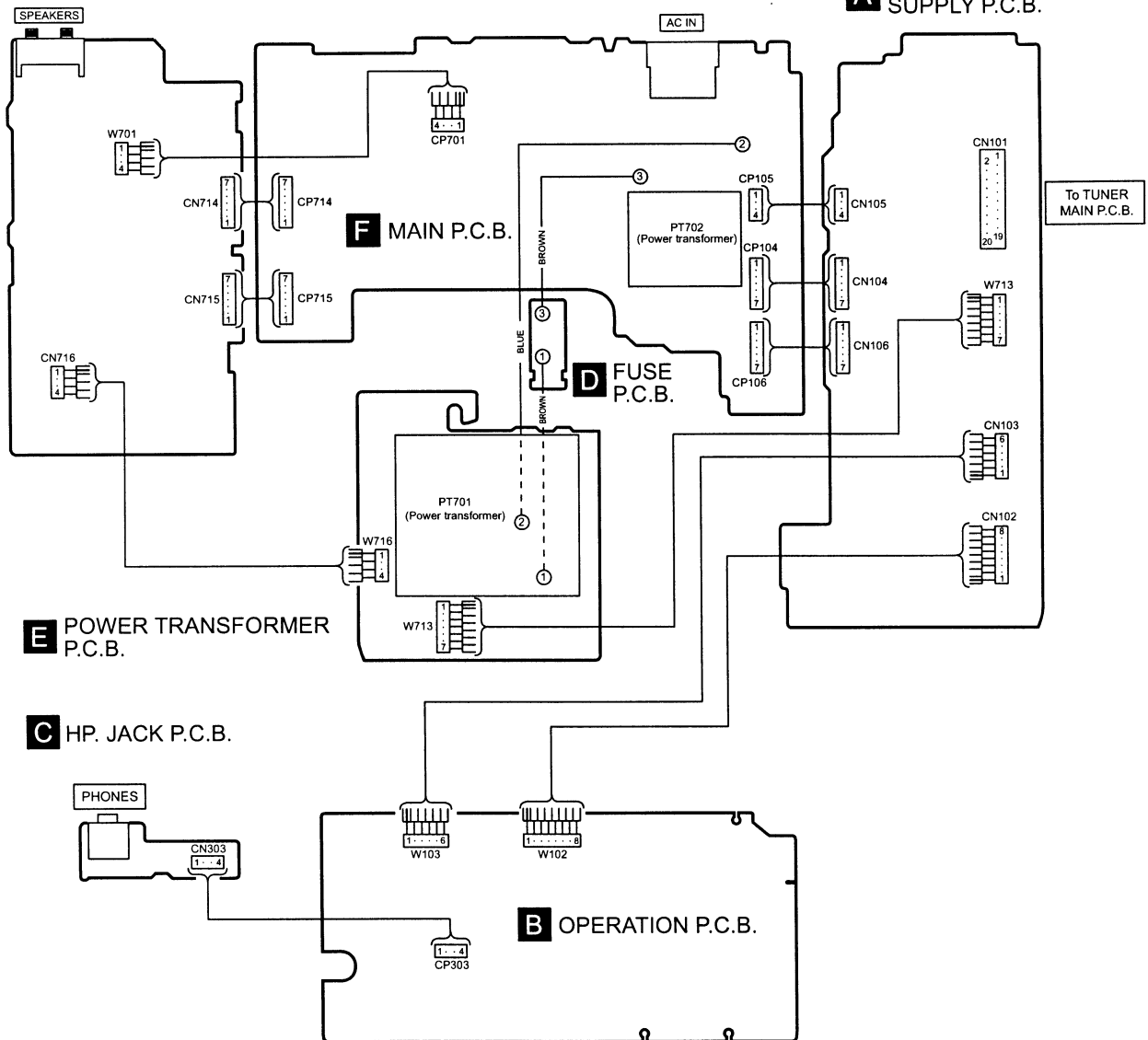
¹© 1999 Matsushita Electric Industrial Co., Ltd.
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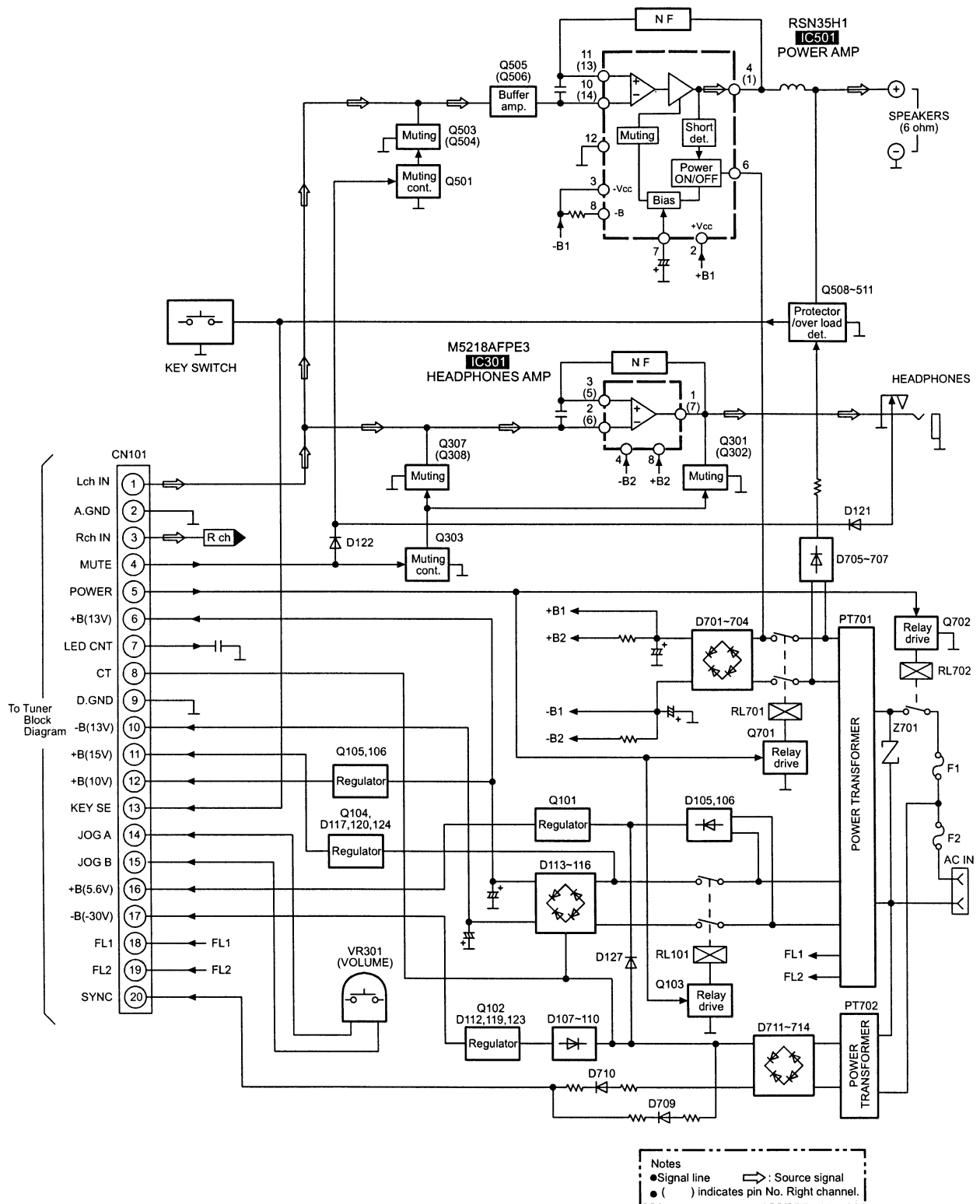
violation of law.

violation of law.

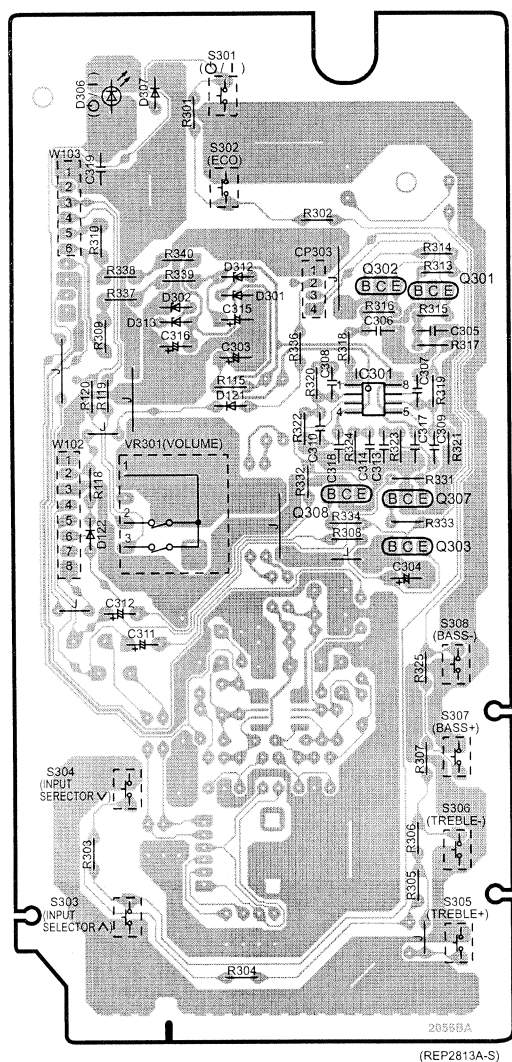
G SPEAKER
TERMINAL P.C.B.

A POWER
SUPPLY P.C.B.

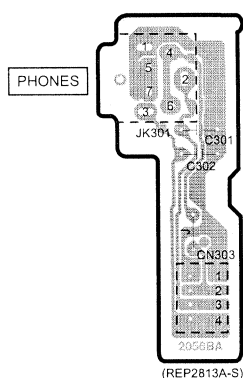




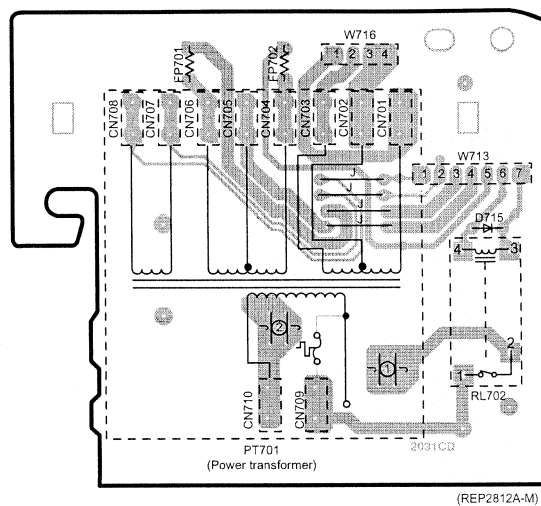
B OPERATION P.C.B.



C HP. JACK P.C.B.

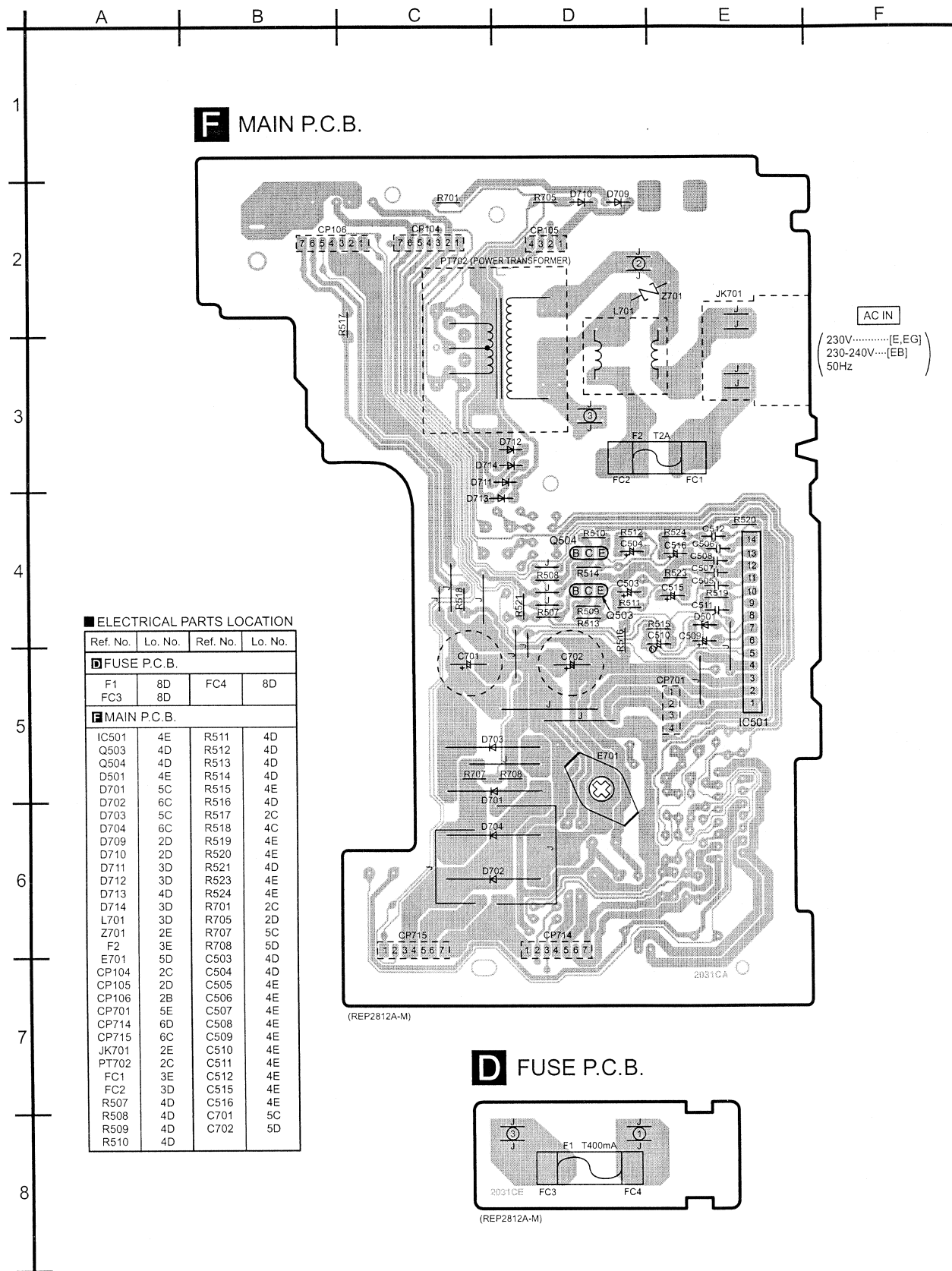


E POWER TRANSFORMER P.C.B.



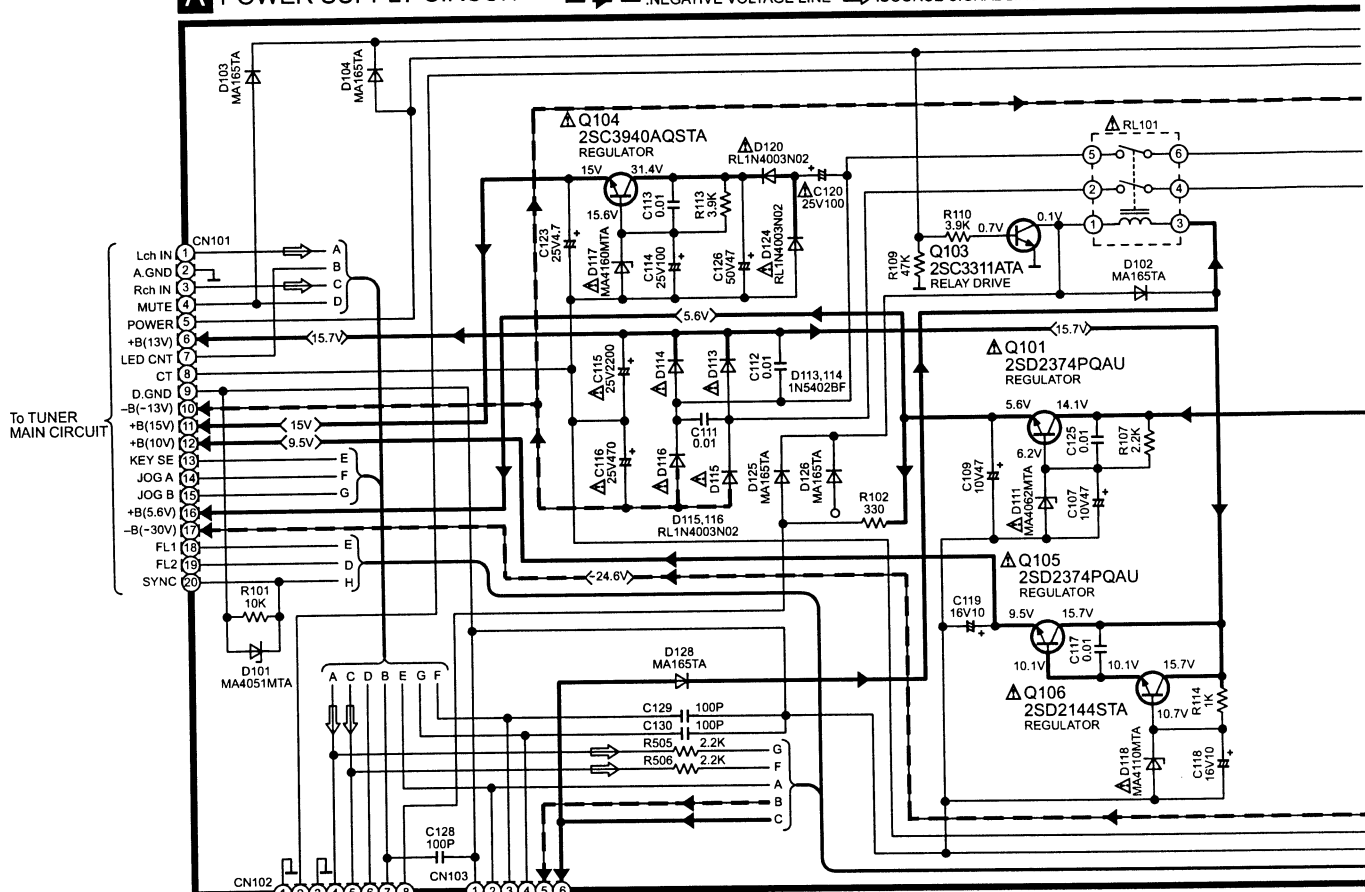
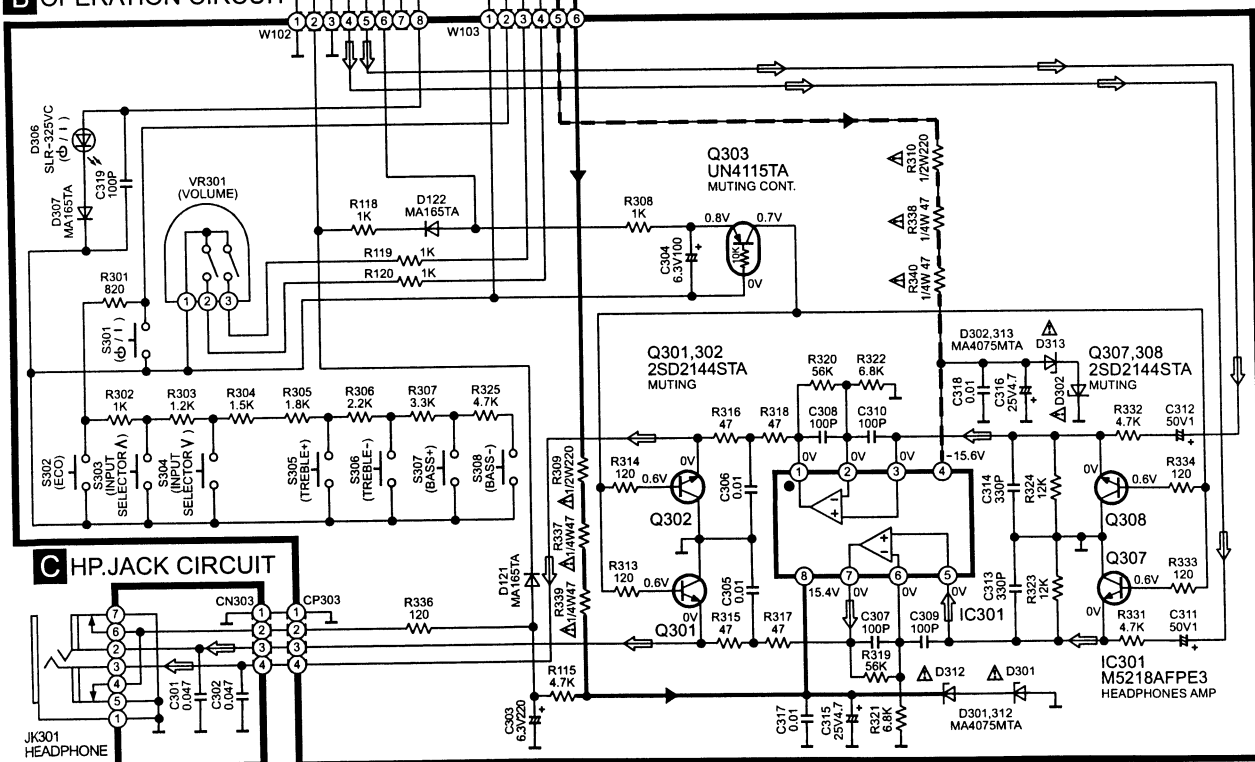
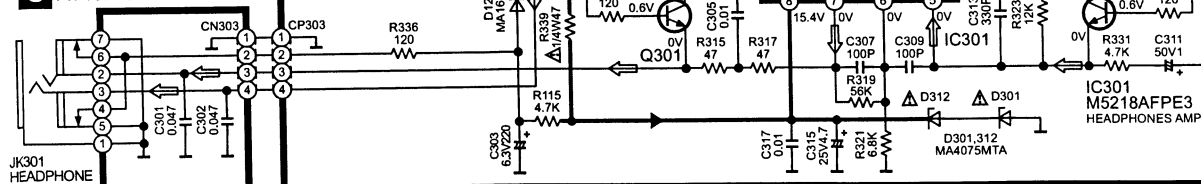
ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
B OPERATION P.C.B.							
IC301	3C	S306	5C	R313	2C	R339	2B
Q301	2C	S307	5C	R314	2C	R340	2B
Q302	2C	S308	4C	R315	2C	C303	3B
Q303	4C	CP303	2B	R316	2C	C304	4C
Q307	3C	W102	3A	R317	3C	C305	3C
Q308	3C	W103	2A	R318	3C	C306	3C
D121	3B	R115	3B	R319	3C	C307	3C
D122	4A	R118	3A	R320	3B	C308	3B
D301	2B	R119	3A	R321	3C	C309	3C
D302	2B	R120	3A	R322	3B	C310	3B
D306	1A	R301	1B	R323	3C	C311	4B
D307	1B	R302	2B	R324	3C	C312	4A
D312	2B	R303	5A	R325	4C	C313	3C
D313	3B	R304	6B	R331	3C	C314	3C
VR301	3B	R305	5C	R332	3B	C315	2B
S301	1B	R306	5C	R333	3C	C316	3B
S302	2B	R307	5C	R334	3C	C317	3C
S303	5A	R308	4C	R336	3B	C318	3C
S304	5A	R309	3A	R337	2A	C319	2A
S305	6C	R310	2A	R338	2A		
C HEADPHONES JACK P.C.B.							
CN303	8B	JK301	7B	C301	7B	C302	7B
E POWER TRANSFORMER							
D715	2F	CN701	2E	CN706	2E	W713	2F
PT701	3E	CN702	2E	CN707	2D	W716	2E
FP701	2D	CN703	2E	CN708	2D		
FP702	2E	CN704	2E	CN709	3E		
RL702	3F	CN705	2E	CN710	3E		

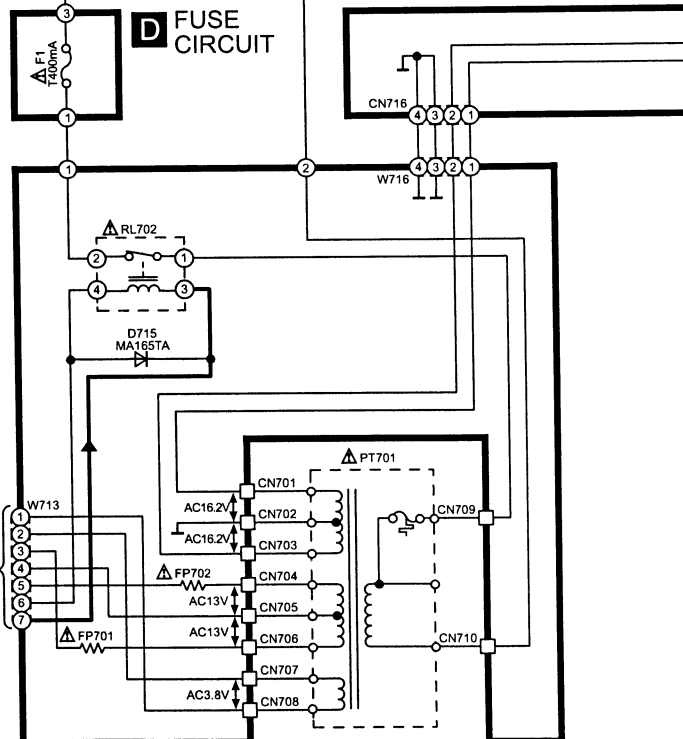


A POWER SUPPLY CIRCUIT

→ : POSITIVE VOLTAGE LINE
 - - - - - : NEGATIVE VOLTAGE LINE ⇨ : SOURCE SIGNAL LINE

**B** OPERATION CIRCUIT**C** HP.JACK CIRCUIT

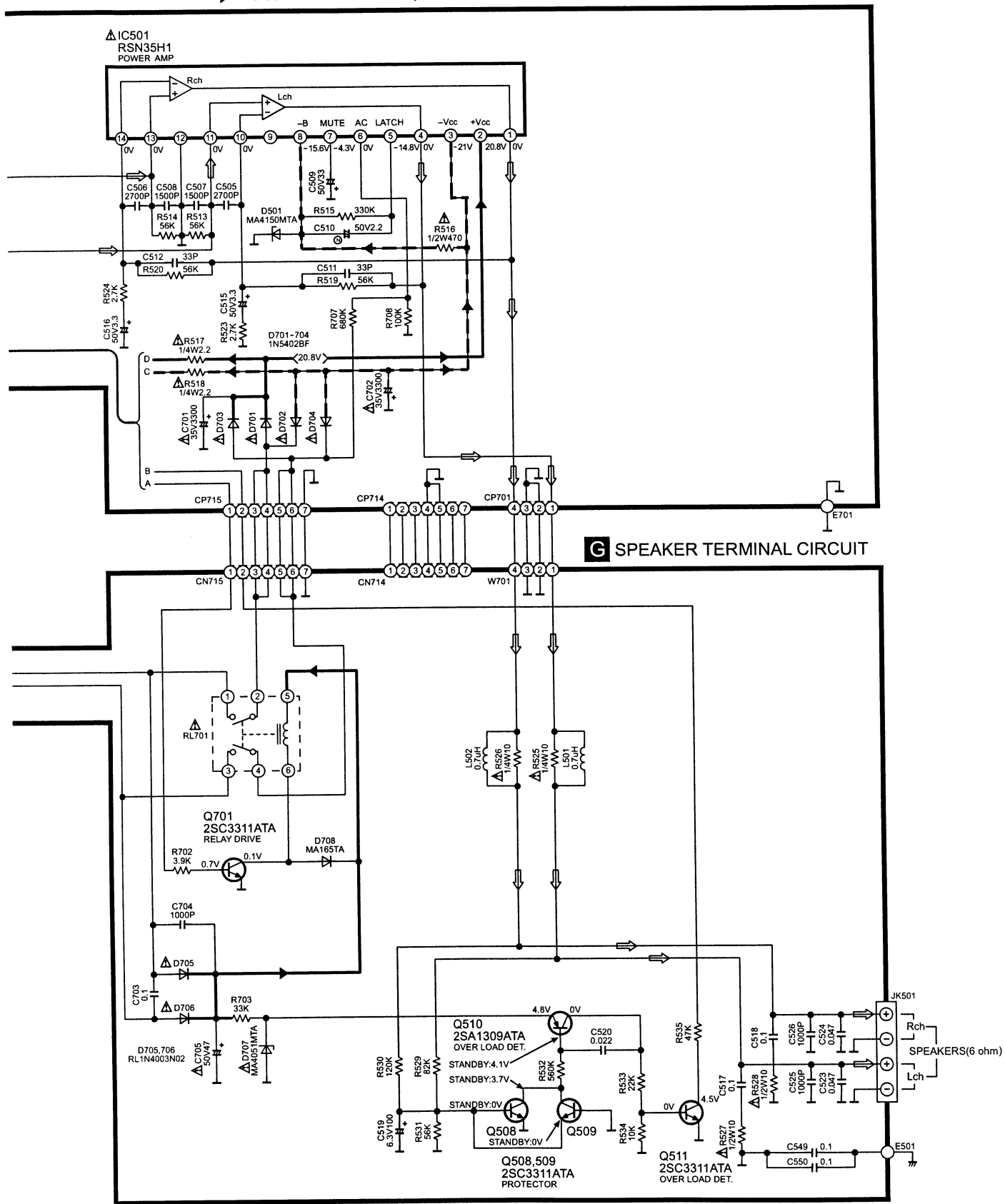
 : POSITIVE VOLTAGE LINE
 : NEGATIVE VOLTAGE LINE : SOURCE SIGNAL LINE

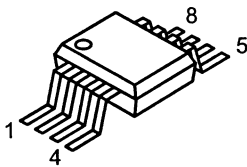
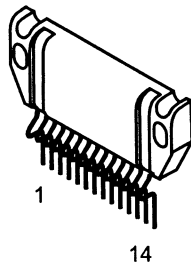
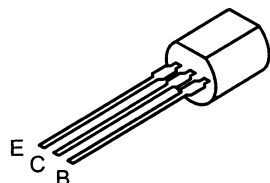
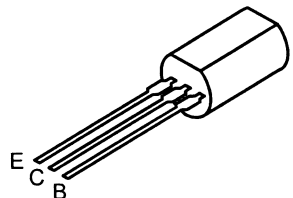
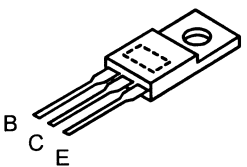
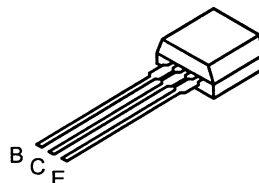
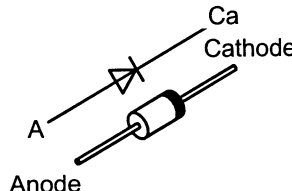
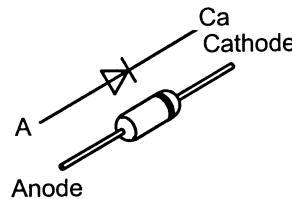
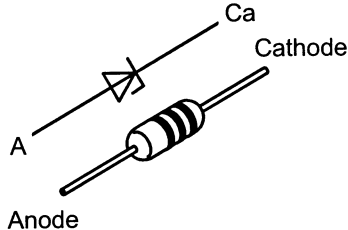
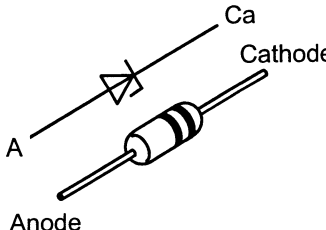
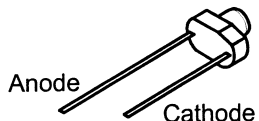
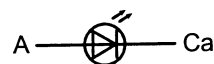


E POWER TRANSFORMER CIRCUIT

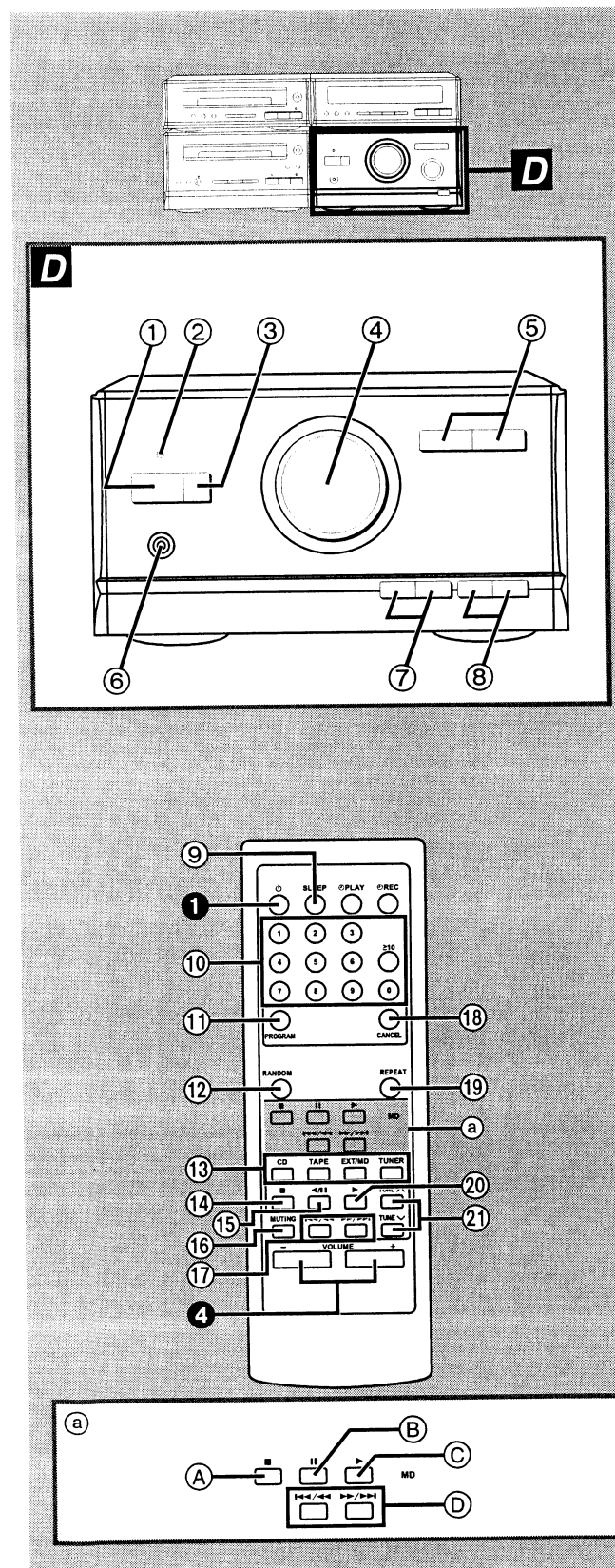
SCHEMATIC DIAGRAM-3

→ : POSITIVE VOLTAGE LINE - → : NEGATIVE VOLTAGE LINE ⇨ : SOURCE SIGNAL LINE



M5218AFPE3 	RSN35H1 	2SB621AQRSTA 	 2SA1309ATA 2SC3311ATA UN4115TA	2SC3940AQSTA 
2SD2374PQAU 	2SD2144STA 	1N5402BF RL1N4003N02 	MA165TA 	 MA4051MTA MA4062MTA
 MA4075MTA MA4110MTA MA4150MTA MA4160MTA MA4240MTA	SLR-325VC  			

Front Panel Controls



Amplifier section

- ① **Standby/on switch** (⏻/⏻)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② **Standby indicator**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ **Eco mode button** (ECO)
- ④ **Volume control** (VOLUME)
- ⑤ **Source input select buttons** (INPUT SELECTOR $\vee$, $\wedge$)
- ⑥ **Headphones jack** (PHONES)
- ⑦ **Bass buttons** (BASS $-$, $+$)
- ⑧ **Treble buttons** (TREBLE $-$, $+$)

Remote control

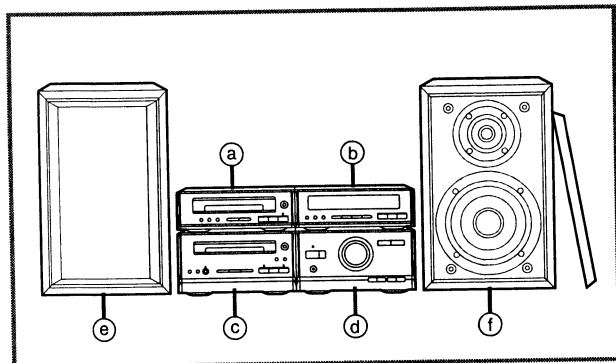
Buttons such as ① function the same as the buttons on the main unit.

- ⑨ **Sleep timer button** (SLEEP)
- ⑩ **Numeric buttons**
- ⑪ **Program button** (PROGRAM)
- ⑫ **Random button** (RANDOM)
- ⑬ **Input selection buttons** (CD, TAPE, EXT/MD, TUNER)
- ⑭ **CD/tape stop button** (■)
- ⑮ **Tape reverse playback/CD pause button** (◀/||)
- ⑯ **Muting button** (MUTING)
- ⑰ **CD skip/search, tape fast forward/rewind buttons** (I◀◀/◀◀, ▶▶/▶▶I)
- ⑱ **Cancel button** (CANCEL)
- ⑲ **Repeat button** (REPEAT)
- ⑳ **CD play/tape forward playback button** (▶)
- ㉑ **Tuning buttons** (TUNE $\wedge$, TUNE $\vee$)

Minidisc deck operations (when connected to a minidisc deck SJ-HD501 (sold separately)) ①

- A **Stop button** (■)
- B **Pause button** (||)
- C **Play button** (▶)
- D **Skip, fast forward/rewind buttons** (I◀◀/◀◀, ▶▶/▶▶I)

■ Installation



- a CD player (SL-HD301)
- b Tuner (ST-HD301)
- c Cassette deck (RS-HD301)
- d Amplifier (SE-HD301)
- e Left speaker (SB-HD301)
- f Right speaker (SB-HD301)

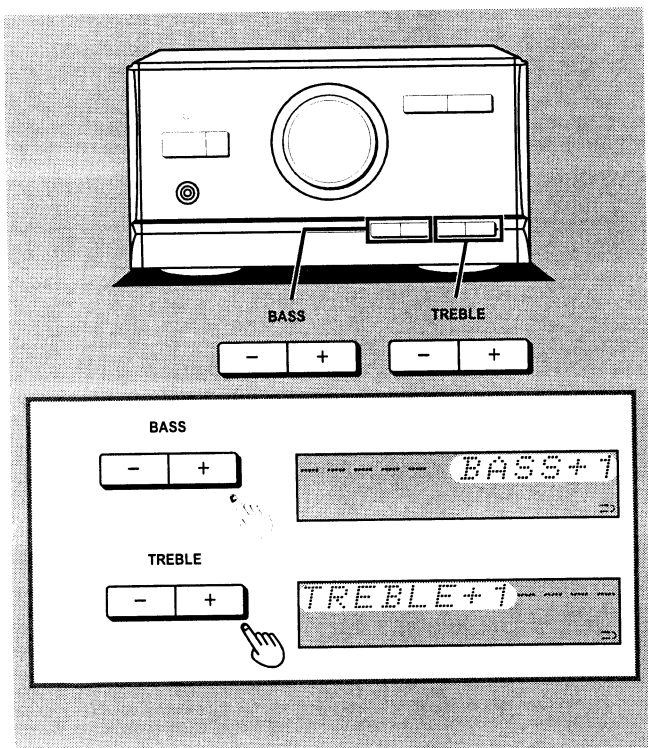
Caution

Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Note

- Do not put the CD player on the amplifier. The CDs can become hot and damaged.
- Left and right speakers are exactly the same.

■ Changing the Tone



To adjust the tone quality

The level can be adjusted between -3 to +3.

Press [BASS (-, +)] to adjust the low-frequency sound.

Press [TREBLE (-, +)] to adjust the high-frequency sound.

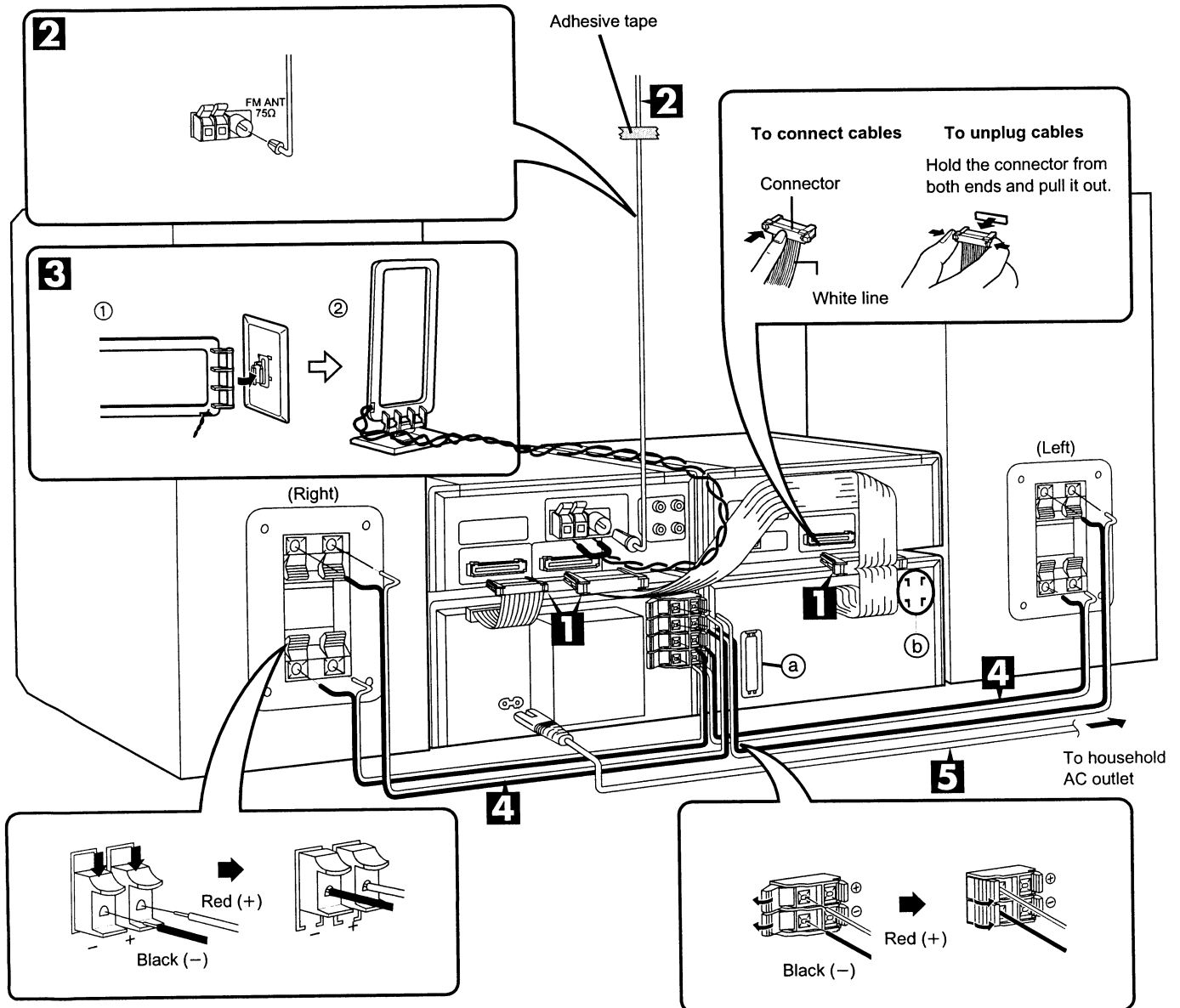
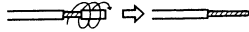
To cancel:

Press [BASS (-, +)] or [TREBLE (-, +)] to select "BASS 0" or "TREBLE 0". ("FLAT" will light.)

■ Connections

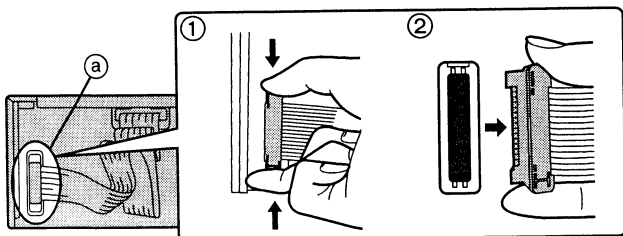
Connect the AC mains lead after you have connected all other cables.

To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.



Before connection

Disconnect the flat cable on the cassette deck. (a)



1 Connect the flat cables.

Connect the flat cables to the terminals on each unit.

Note

Do not connect or disconnect the flat cables while the unit is on.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column where radio signals are received with the least amount of interference.

Note

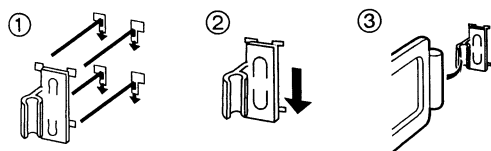
When you cannot get good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

3 Connect the AM loop antenna.

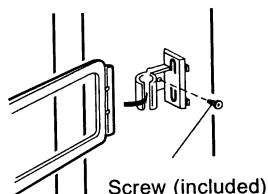
You can also install the AM loop antenna on the rear of the cassette deck, wall or pillars.

In this case, be sure to use the antenna holder with the hole.

•To install on the cassette deck rear (b)



•To install on walls or pillars



Note

Minimize noise by bundling the cord with tape to keep it away from the flat cables.

4 Connect the right (R) and left (L) speaker cables.

Connect the speaker cables to the terminal levers of the same color.

Use only the supplied speakers.

The combination of the main unit and front speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively effected.

Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (-) terminals.

(United Kingdom only)

BE SURE TO READ THE CAUTION FOR AC MAINS LEAD BEFORE PROCEEDING TO STEP 5.

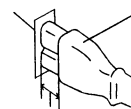
5 Connect the AC mains lead.

Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.

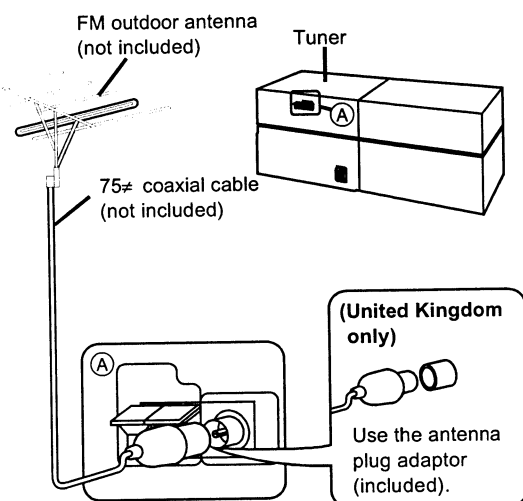
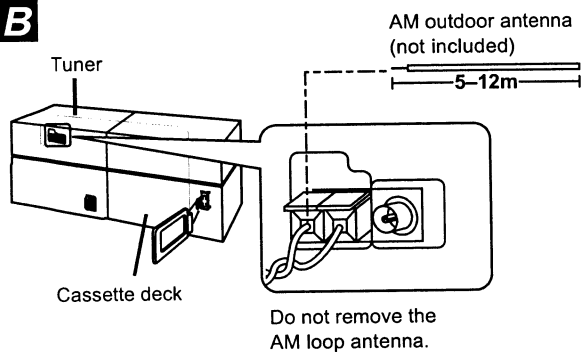
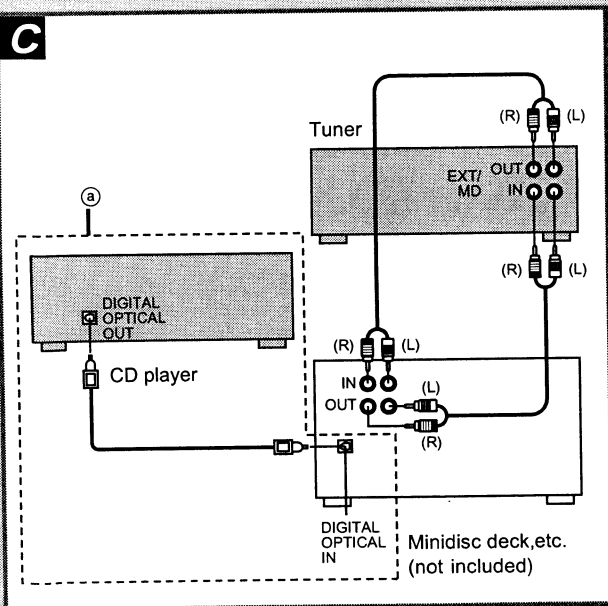
Appliance inlet Connector



Approx. 6 mm

For your reference:

Information you enter into the unit's memory, except for the time, remains intact for up to two weeks after the mains lead is disconnected.

A**B****C**

Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna (not included) **A**

Note

An outdoor antenna should be installed by a competent technician only.

AM outdoor antenna (not included) **B**

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Connecting a minidisc deck, etc. **C**

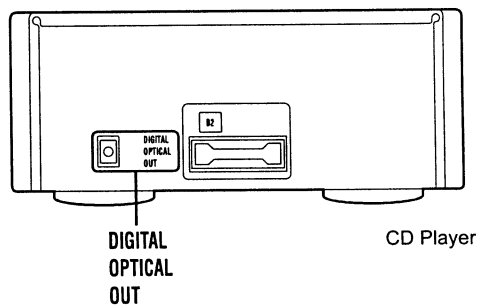
- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the external unit which is to be connected.
- All peripheral components and cables sold separately.

Stereo connection cable

White (L) Red (R)

Connections to "DIGITAL OPTICAL OUT" terminal: **a**

Before using this terminal, take out the dust protection cap. Connect an optical-fiber cable to the optical input terminal of the minidisc deck (not included).



(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below. If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL $\perp$ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF & KEEP DRY.

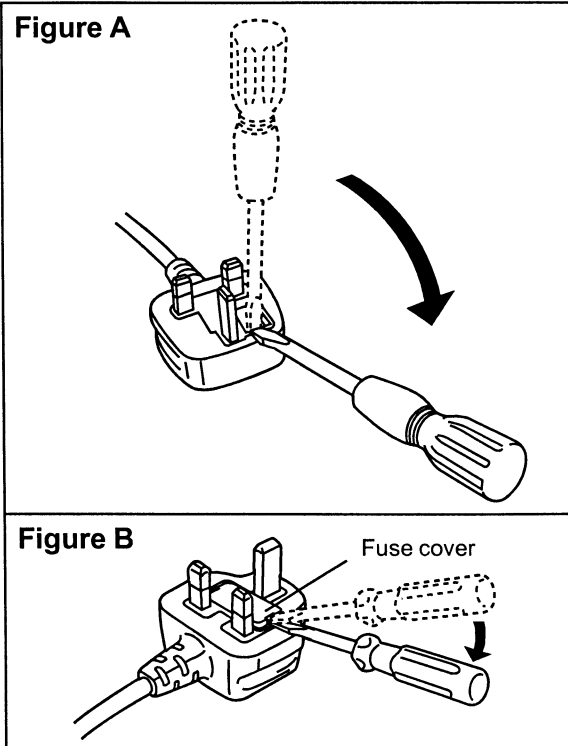
Before use

Remove the connector cover.

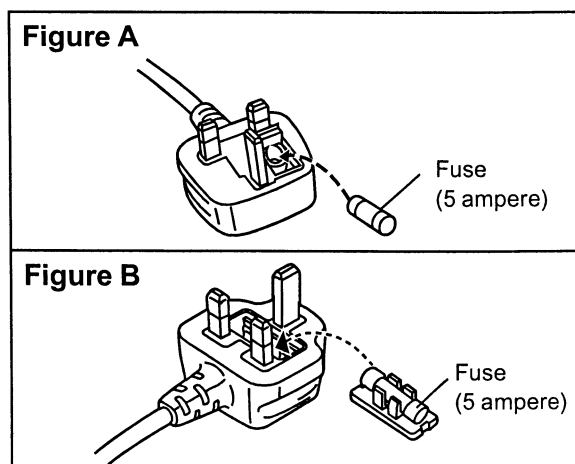
How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



ORDER NO. AD9902014C2

Service Manual

Amplifier

SE-HD501

Colour

(N).....Gold Type

Areas

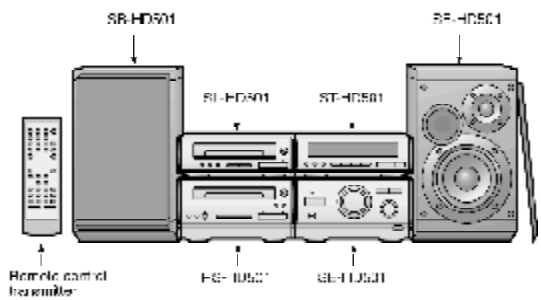
E.....Europe.

EG.....Germany and Italy, etc.

EB.....Great Britain.

EP.....East Europe and Russia.

System: SC-HD501



SPECIFICATIONS

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.

Specifications

■ Amplifier Section (Low frequency side)

Power output
DIN 1 kHz, THD 1%, both channels driven: 2 X 12W (6 ohm)
RMS 1 kHz, THD 10%, both channels driven: 2 X 15W (6 ohm)
Total harmonic distortion
Half power at 1 kHz: 0.09% (6 ohm)
Load impedance: 6 ohm
S/N: 75dB

■ Amplifier Section (High frequency side)

Power output
DIN 1 kHz, THD 1%, both channels driven: 2 X 6W (6 ohm)
RMS 10 kHz, THD 10%, both channels driven: 2 X 6W (6 ohm)
Load impedance: 6 ohm
S/N: 75dB

Headphones
Jack type: 3.5mm STEREO
Load impedance: 16-32 ohm

System/SC-HD501:
Tuner: ST-HD501, Compact Disc Player: SL-HD501, Amplifier: SE-HD501, Cassette Deck: RG-HD501, Speakers: SR-HD501 (Made in PAKISTAN)

■ General

Power consumption: 73W
STANDBY condition: Normal: 20W
Eco: 0.8W

Power supply
[For (E) area]: 230-240V, AC 50Hz
[For (E, E.G, EP) areas]: 230V, AC 60Hz
Dimensions (WxHxD): 196 x 104 x 270 mm
Weight: 8.4 kg

Notes:
1. Specifications are subject to change without notice.
2. Dimensions and Weight are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

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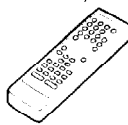
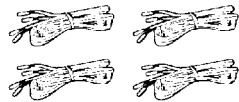
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

1. Accessories

- AC power supply cord 1 pc.
For (EB) area: (RJA0053-2X)

- Remote control transmitter 1 pc.
(RAK-HDA07WH)

- Speaker cords 4 pcs.
(REE0499) (REE0853)

- Remote control batteries 2 pcs.
[[R6/LR6 (AA, UM-3)]]
Note: These are available on sales route.

- AM loop antenna set (RSA0021)
AM loop antenna 1 pc.
Antenna holder with stand 1 pc.

- Antenna holder 1 pc.
Screw 1 pc.

- FM indoor antenna 1 pc.
(RSA0007)

- Antenna plug adaptor 1 pc.
For (EB) area only:
(SJP9009)


2. Before Repair and Adjustment

1. Turn off the power supply. Using a 10 Ω , 10W resistor, connect both ends of power supply capacitors (C102-105, 127) in order to discharge the voltage.
2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V/240 V.

Area	(E) (EG) (EP)		(EB)	
Power supply voltage	AC 230V		AC 240V	
Consumed current 50 Hz	50 Hz	60-180 mA	50 Hz	55-175 mA

3. Caution for AC Main Lead

4. Operating Instructions

5. Operation Checks and Component Replacement

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF & KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

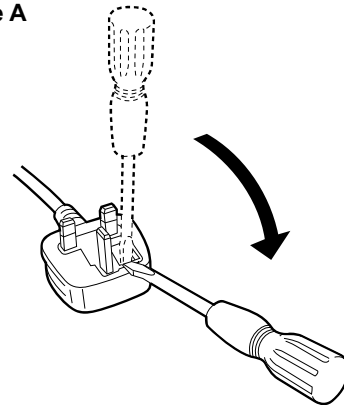
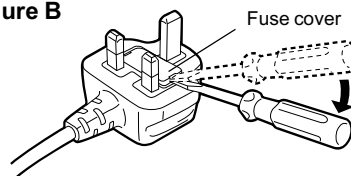


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

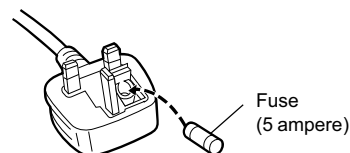
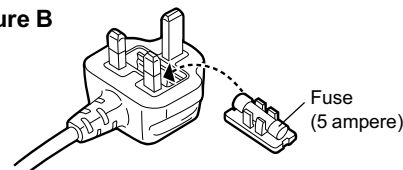
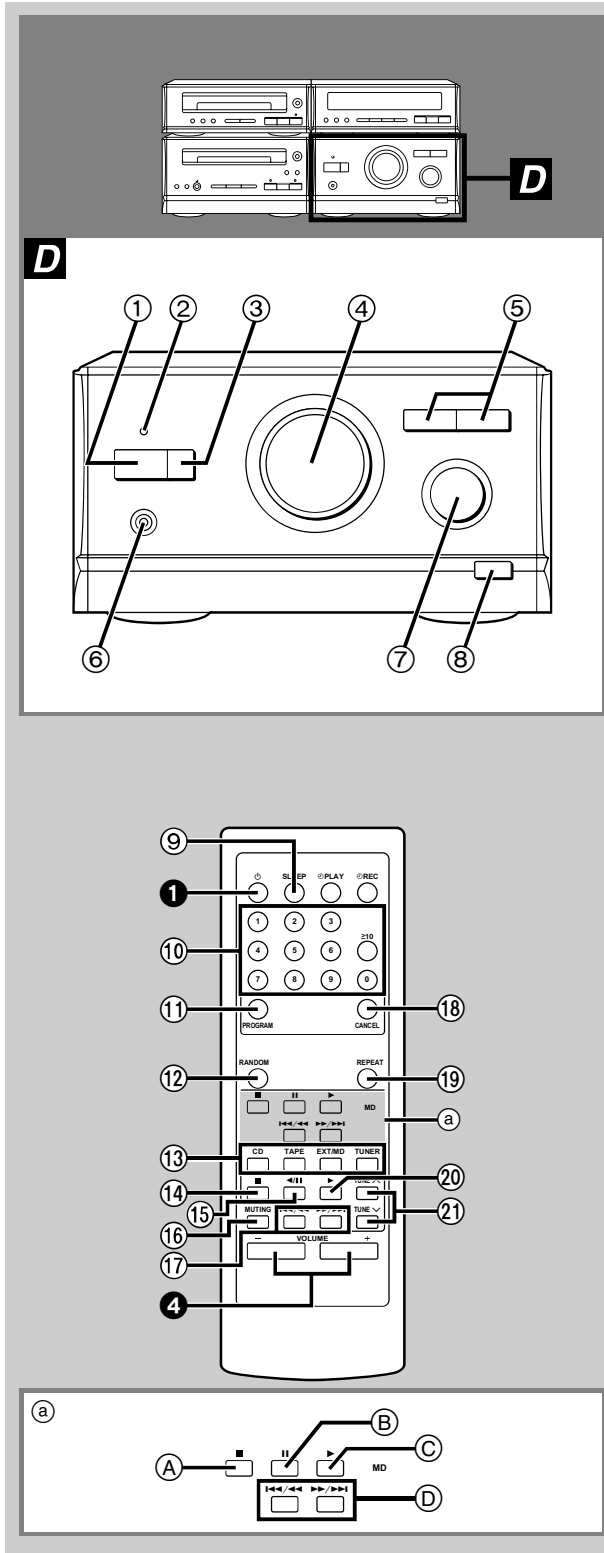


Figure B



■ Front Panel Controls



Amplifier section

- ① **Standby/on switch (⏻/⏻)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ② **Standby indicator**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ③ **Eco mode button (ECO)**
- ④ **Volume control (VOLUME)**
- ⑤ **Source input select buttons (INPUT SELECTOR v, ^)**
- ⑥ **Headphones jack (PHONES)**
- ⑦ **Fine tweeter control (FINE TWEETER CONTROL)**
- ⑧ **Bass button (BLFS)**

Remote control

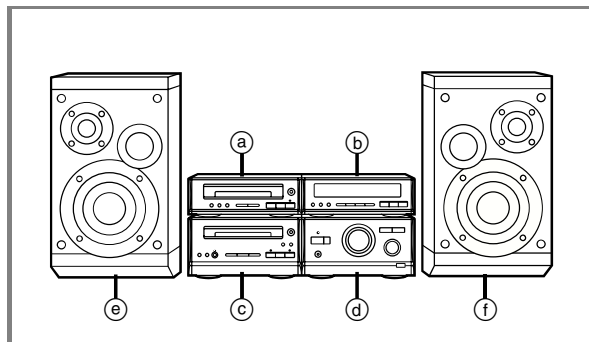
Buttons such as ❶ function the same as the buttons on the main unit.

- ⑨ **Sleep timer button (SLEEP)**
- ⑩ **Numeric buttons**
- ⑪ **Program button (PROGRAM)**
- ⑫ **Random button (RANDOM)**
- ⑬ **Input selection buttons (CD, TAPE, EXT/MD, TUNER)**
- ⑭ **CD/tape stop button (■)**
- ⑮ **Tape reverse playback/CD pause button (◀/||)**
- ⑯ **Muting button (MUTING)**
- ⑰ **CD skip/search, tape fast forward/rewind buttons (I◀◀/◀◀, ▶▶/▶▶I)**
- ⑱ **Cancel button (CANCEL)**
- ⑲ **Repeat button (REPEAT)**
- ⑳ **CD play/tape forward playback button (▶)**
- ㉑ **Tuning buttons (TUNE ^, TUNE v)**

Minidisc deck operations (when connected to a minidisc deck SJ-HD501 (sold separately)) ❶

- A **Stop button (■)**
- B **Pause button (||)**
- C **Play button (▶)**
- D **Skip, fast forward/rewind buttons (I◀◀/◀◀, ▶▶/▶▶I)**

■ Installation



- (a) CD player (SL-HD501)
- (b) Tuner (ST-HD501)
- (c) Cassette deck (RS-HD501)
- (d) Amplifier (SE-HD501)
- (e) Left speaker (SB-HD501)
- (f) Right speaker (SB-HD501)

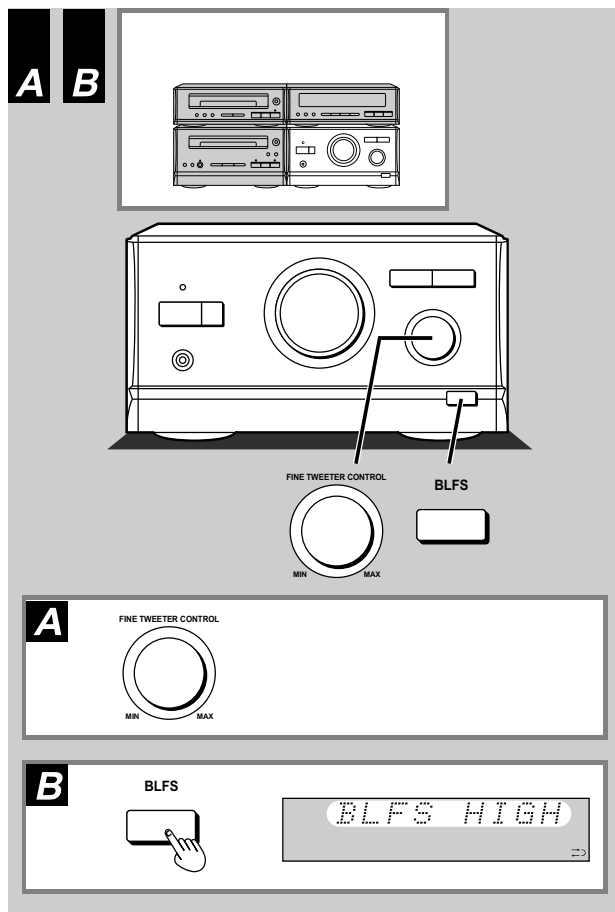
Caution

Use the speakers only with the recommended system.
Failure to do so may lead to damage to the amplifier and/or the speaker, and may result in the risk of fire.
Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

Note

- Do not put the CD player on the amplifier. The CDs can become hot and damaged.

■ Changing the Tone



Adjusting the treble range **A**

This unit separates the tweeter and woofer so fine adjustments to the treble range can be made.

Turn [FINE TWEETER CONTROL] to adjust to the preferred sound quality.

Set it to MAX when you want to emphasize the treble range, or to MIN when you want to reduce it.

Note

This effect is not discernible when using headphones.

Emphasizing low frequency sounds **B**

BLFS (Brisk Low Frequency Sound)

This effect increases the bass range to give music more power without interfering with the vocal range.

Press [BLFS].

Each time you press the button;
 BLFS HIGH → BLFS LOW → BLFS OFF (FLAT)

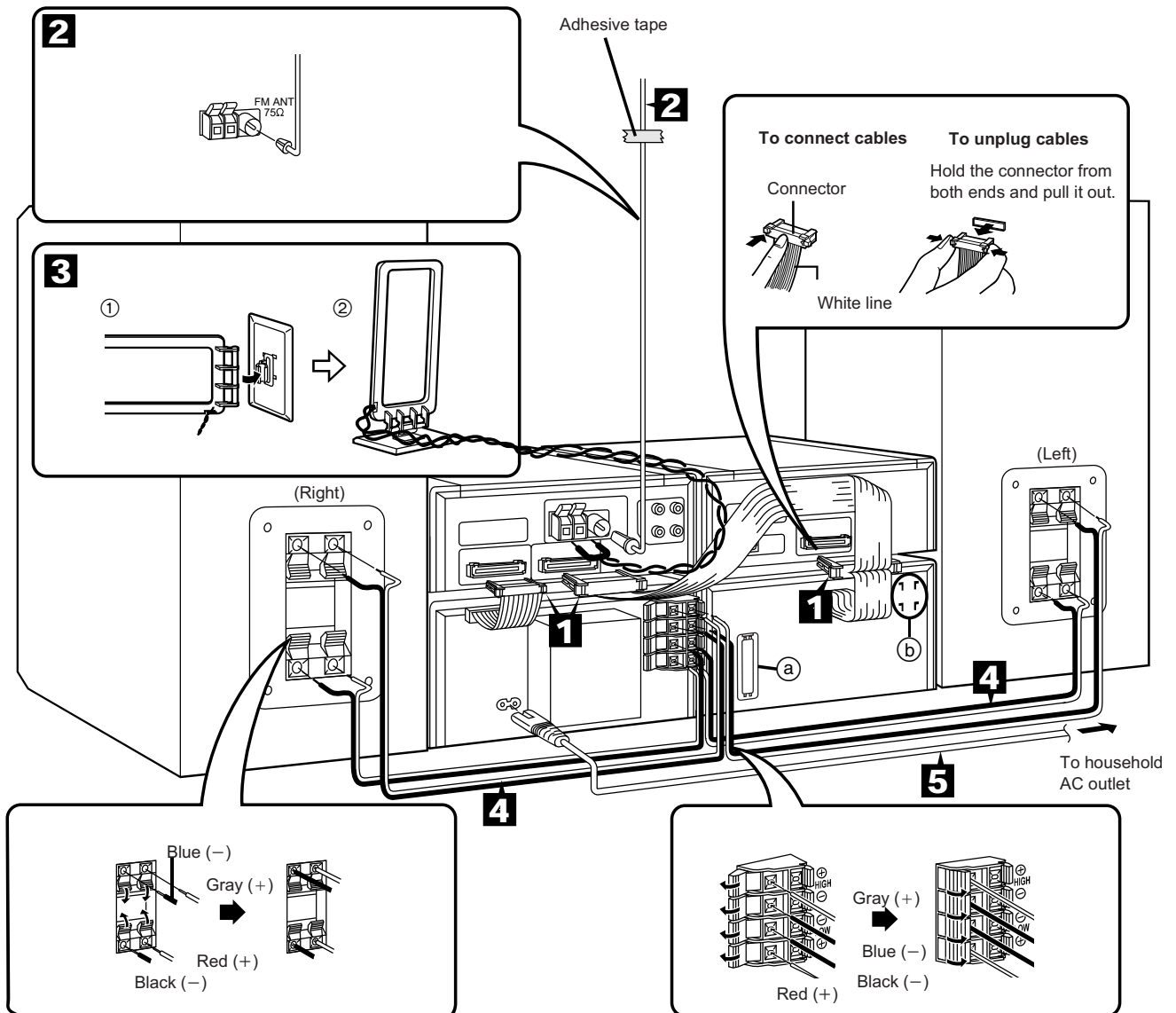
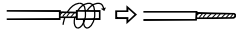
To cancel:

Press [BLFS] to select "BLFS OFF". ("FLAT" will light.)

■ Connections

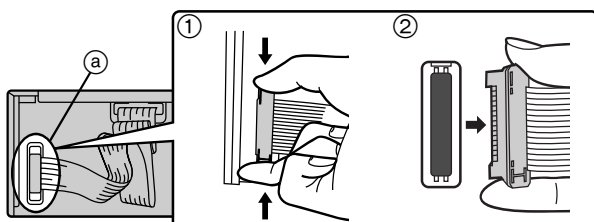
Connect the AC mains lead after you have connected all other cables.

To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.



Before connection

Disconnect the flat cable on the cassette deck. (a)



1 Connect the flat cables.

Connect the flat cables to the terminals on each unit.

Note

Do not connect or disconnect the flat cables while the unit is on.

After connection:

Keep cables as flat against the back of the unit as possible.

2 Connect the FM indoor antenna.

Tape the antenna to a wall or column where radio signals are received with the least amount of interference.

Note

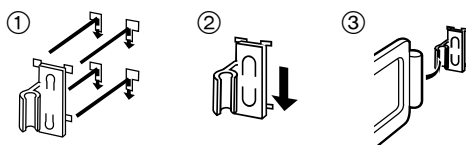
When you cannot get good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included).

3 Connect the AM loop antenna.

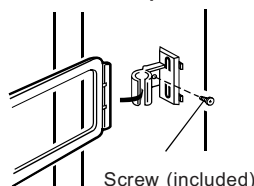
You can also install the AM loop antenna on the rear of the cassette deck, wall or pillars.

In this case, be sure to use the antenna holder with the hole.

•To install on the cassette deck rear (b)



•To install on walls or pillars



Note

Minimize noise by bundling the cord with tape to keep it away from the flat cables.

4 Connect the right (R) and left (L) speaker cables.

Connect the speaker cables to the terminal levers of the same color.

Use only the supplied speakers.

The combination of the main unit and front speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively effected.

Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black or blue) wires to negative (-) terminals.

(United Kingdom only)

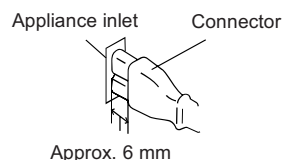
BE SURE TO READ THE CAUTION FOR AC MAINS LEAD BEFORE PROCEEDING TO STEP 5.

5 Connect the AC mains lead.

Insertion of Connector

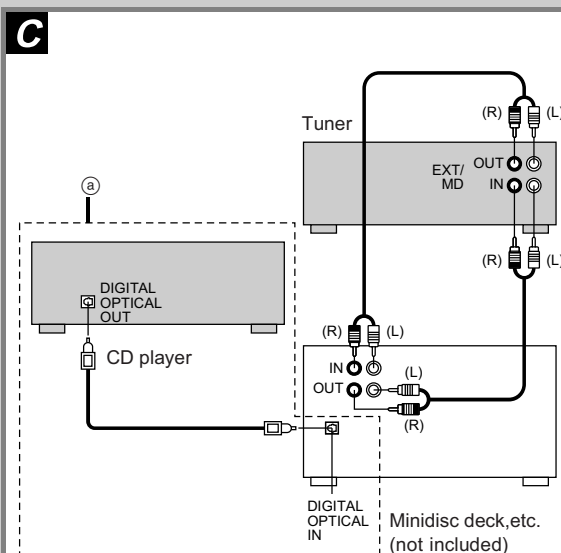
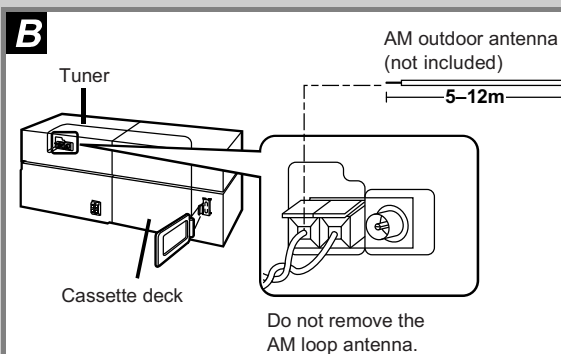
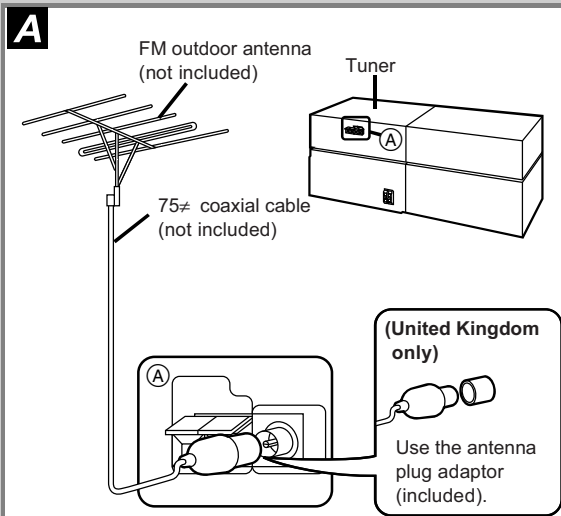
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.

However there is no problem using the unit.



For your reference:

Information you enter into the unit's memory, except for the time, remains intact for up to two weeks after the mains lead is disconnected.



Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna (not included) **A**

Note

An outdoor antenna should be installed by a competent technician only.

AM outdoor antenna (not included) **B**

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Connecting a minidisc deck, etc. **C**

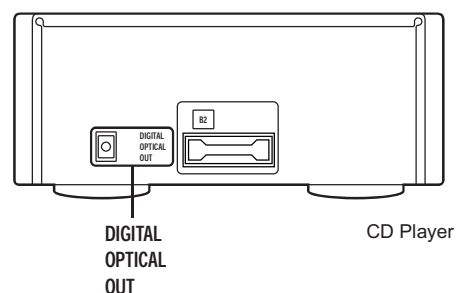
- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the external unit which is to be connected.
- All peripheral components and cables sold separately.

Stereo connection cable

White (L) Red (R)

Connections to "DIGITAL OPTICAL OUT" terminal: **a**

Before using this terminal, take out the dust protection cap. Connect an optical-fiber cable to the optical input terminal of the minidisc deck (not included).



Procedures

- NOTE** 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
3. Select item from the following Index when checks or replacement are required.

The fuse P.C.B. located on main P.C.B. carries the high current of primary side. Never touch the fuse P.C.B. to prevent from electric shock or breaking when turning on power. In the event of turning on power when the fuse P.C.B. is free from holder, it must be wrapped with cloth (like as insulation material) for insulation.

Contents

■ Checking Procedures for each P.C.B.

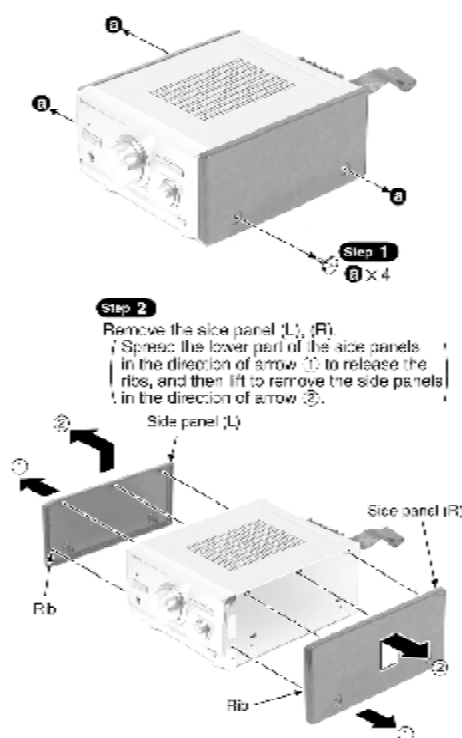
1. Checking for the AC IN P.C.B. and relay P.C.B..
2. Checking for the operation P.C.B..
3. Checking for the main P.C.B..

■ Main Component Replacement Procedures

1. Replacement for the power IC.

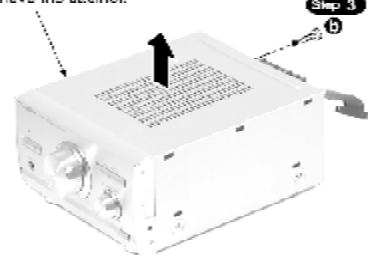
■ Checking Procedures for each P.C.B.

1. Checking for the AC IN P.C.B. and relay P.C.B.

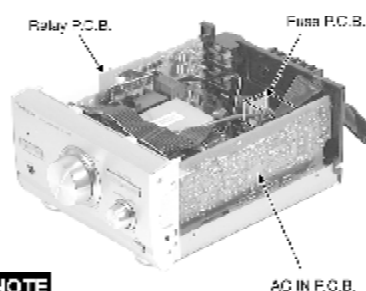


Step 4

Remove the cabinet.



- Check the AC IN P.C.B. and relay P.C.B. as shown below.

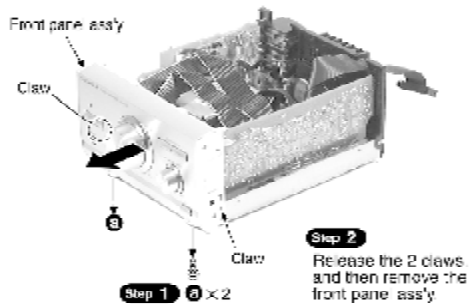


NOTE

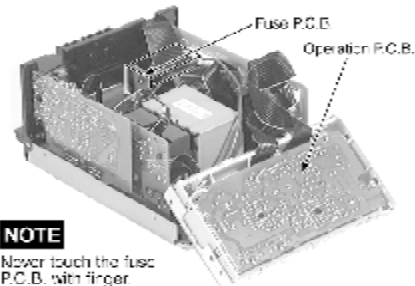
Never touch the fuse P.C.B. with finger.

2. Checking for the operation P.C.B.

- Follow the **Step 1** ~ **Step 4** of the item 1 in checking procedure for each P.C.B..

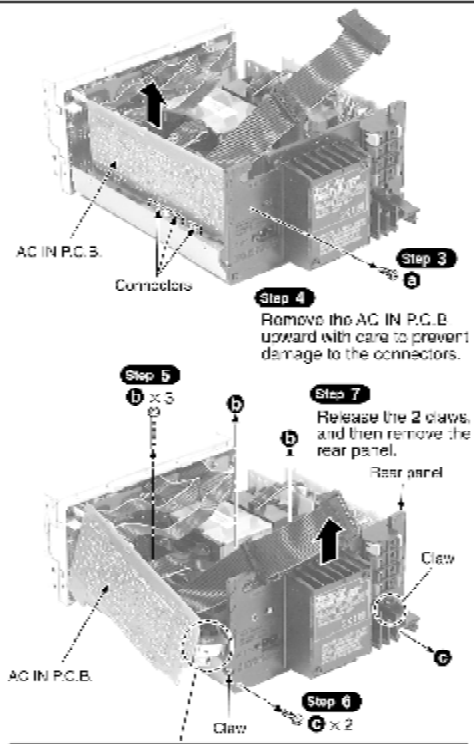
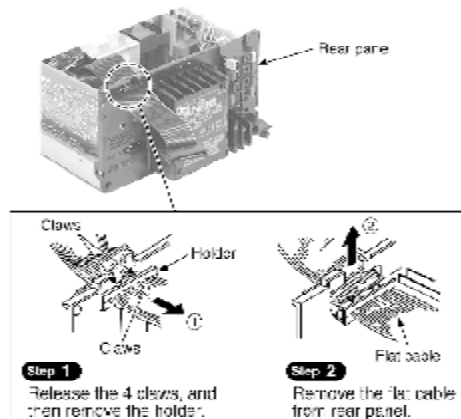


- Check the operation P.C.B. as shown below.

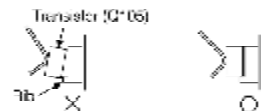


3. Checking for the main P.C.B.

- Follow the **Step 1** ~ **Step 4** of the item 1 in checking procedure for each P.C.B..
- Follow the **Step 1** ~ **Step 2** of the item 2 in checking procedure for each P.C.B..



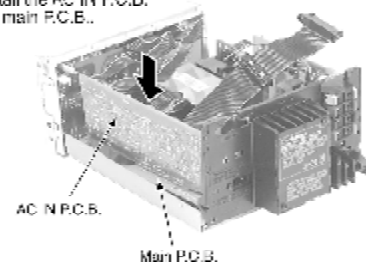
■ Notice for installation of AC IN P.C.B.

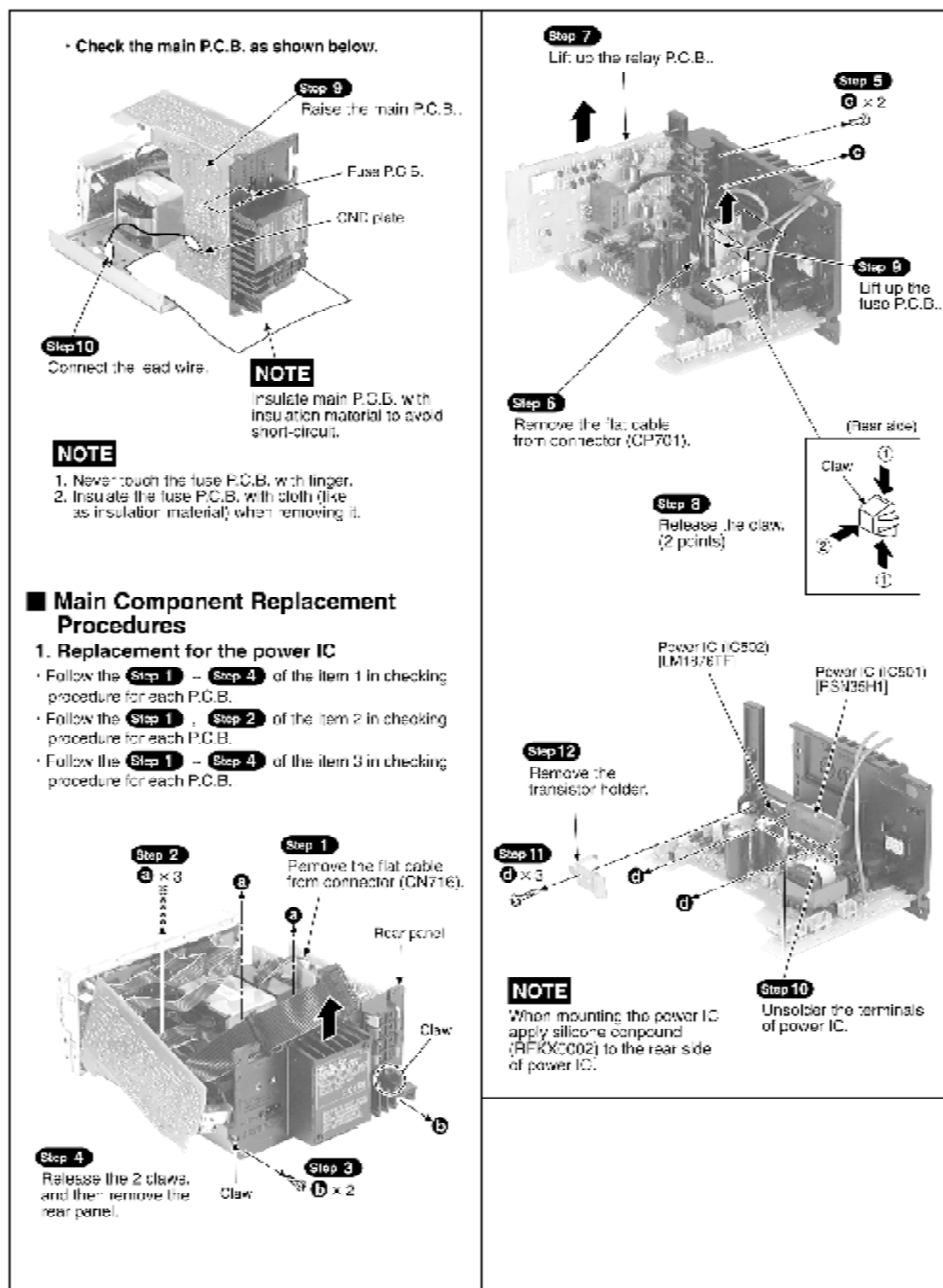


- Use care that the transistor (Q105) is not located on the 7th as shown above.
- Apply the compound grease (No. RFXK0002 or equivalent material) on the back side of transistor (Q105).
- Use care to prevent applying the grease on the lead wire or other parts.

Step 8

- Reinstall the AC IN P.C.B. to the main P.C.B..



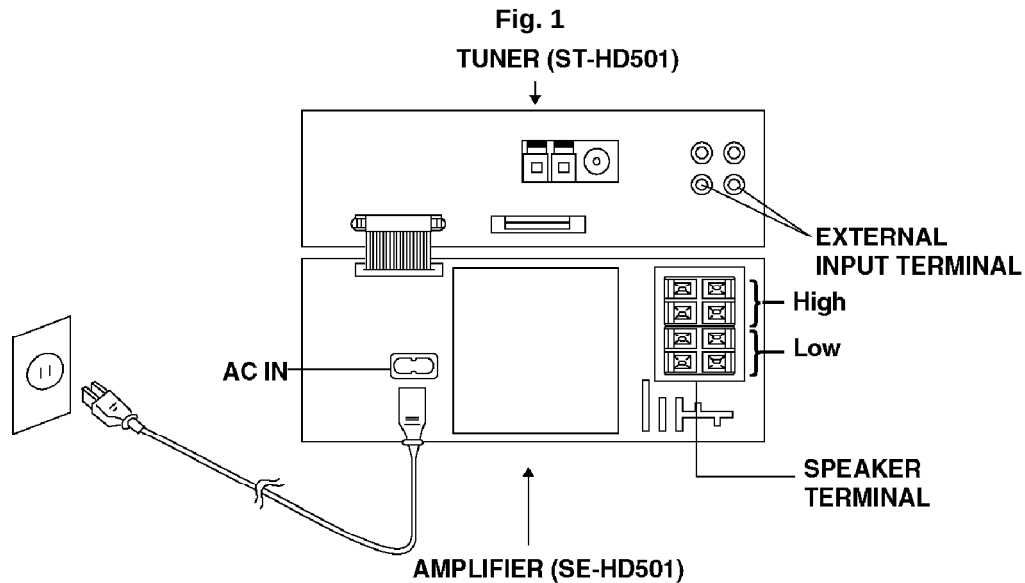


6. Power Source ON/OFF and Signal Check

To operate this unit SE-HD501 normally, it is necessary for connecting with the unit ST-HD501.
/ When operating the unit SE-HD501, be sure to connect the unit ST-HD501 with included connection cable.

1. Connect with the Tuner (ST-HD501). (As shown in **Fig. 1**)
2. Connect the AC mains lead to Amplifier (SE-HD501). (As shown in **Fig. 1**)
3. Connect the speakers to speaker terminal. (As shown in **Fig. 1**)

4. Turn on the power of the Amplifier (SE-HD501).
5. Press INPUT SELECTOR to select the external source (EXT) of the Amplifier (SE-HD501).
6. Input a sound signal to external input terminal of Tuner (ST-HD501), and confirm to be outputted from the speaker. (Both “High” and “Low”.)



7. Schematic Diagram Notes

7.1. Type Illustration of IC's, Transistors and Diodes

7.2. Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S301: Power "STANDBY / ON" switch in "OFF" position.
- S302: Eco mode switch in "OFF" position.
- S303: Source input select control (⏏) switch.
- S304: Source input select control (⏏) switch .
- S305: Bass (BLFS) switch in "OFF" position.
- VR301: Main control V.R.
- VR401: Fine tweeter control V.R.
- Indicated voltage values are the standard values for the unit

measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark: Power ON

- Important safety notice:

Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- Caution!

IC and LSI are sensitive to static electricity.

Secondary trouble can be prevented by taking care during repair.

Cover the parts boxes made of plastics with aluminum foil.

Ground the soldering iron.

Put a conductive mat on the work table.

Do not touch the legs of IC or LSI with the fingers directly.

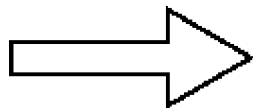
- Voltage and signal line



: Positive voltage line



: Negative voltage line



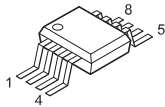
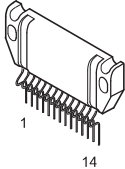
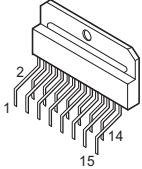
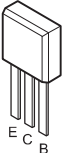
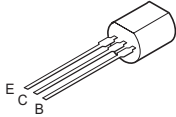
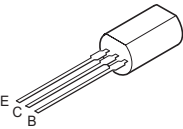
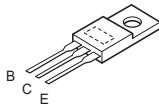
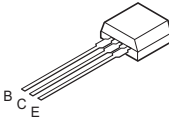
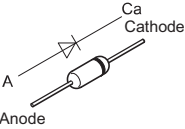
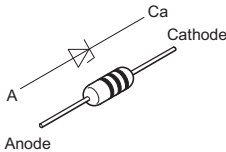
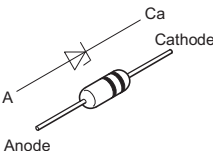
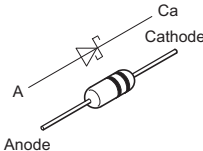
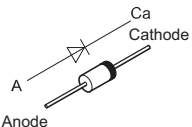
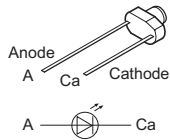
: Source signal line

8. Schematic Diagram

9. Printed Circuit Board Diagram

10. Block Diagram

11. Wiring Connection Diagram

M5218AFPE3 	RSN35H1 	LM1876TF 	 2SA1309ATA 2SC3311ATA UN4115TA	2SB621AQRSTA 
2SC3940AQSTA 	2SD2374PQAU 	2SD2144STA 	MA165TA 	 MA4051MTA MA4062MTA
 MA4075MTA MA4110MTA MA4120MTA MA4150MTA MA4160MTA MA4240MTA	MA719TA 	1N5402BF RL1N4003N02 	SLR-325VC 	

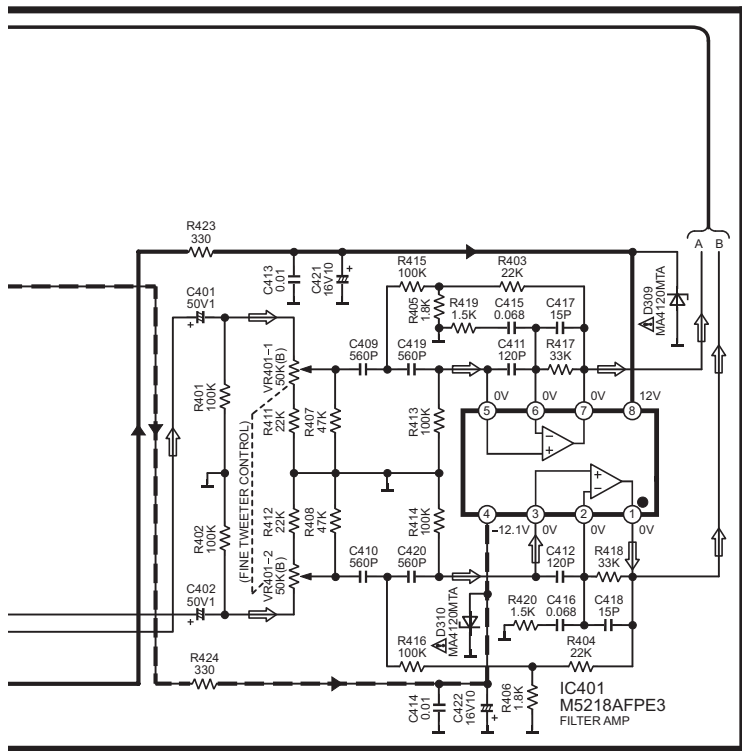
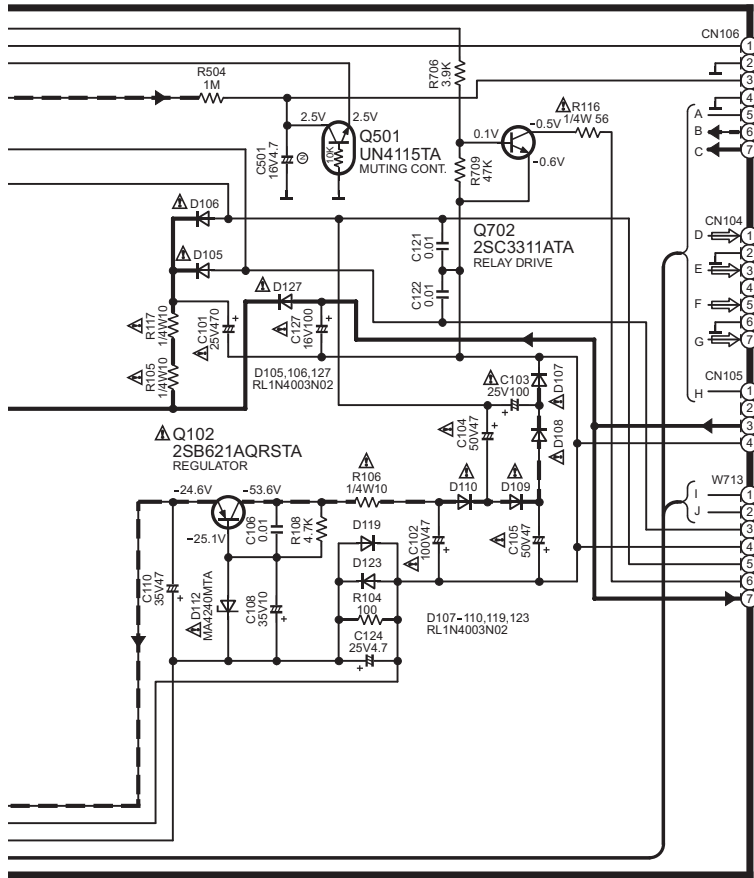
A POWER SUPPLY CIRCUIT

CHP.JACK CIRCUIT

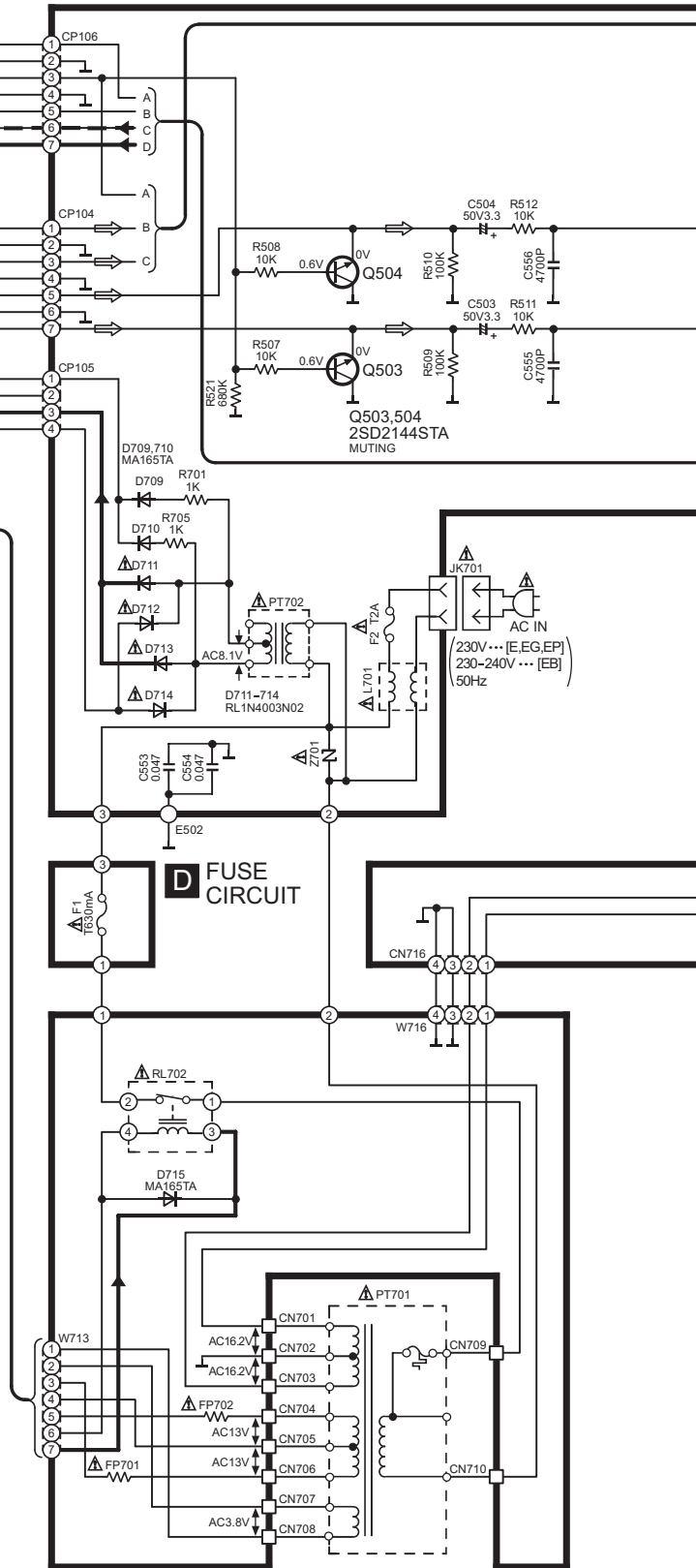
JK301
HEADPHONE

SCHEMATIC DIAGRAM-2

 : POSITIVE VOLTAGE LINE
 : NEGATIVE VOLTAGE LINE : SOURCE SIGNAL LINE



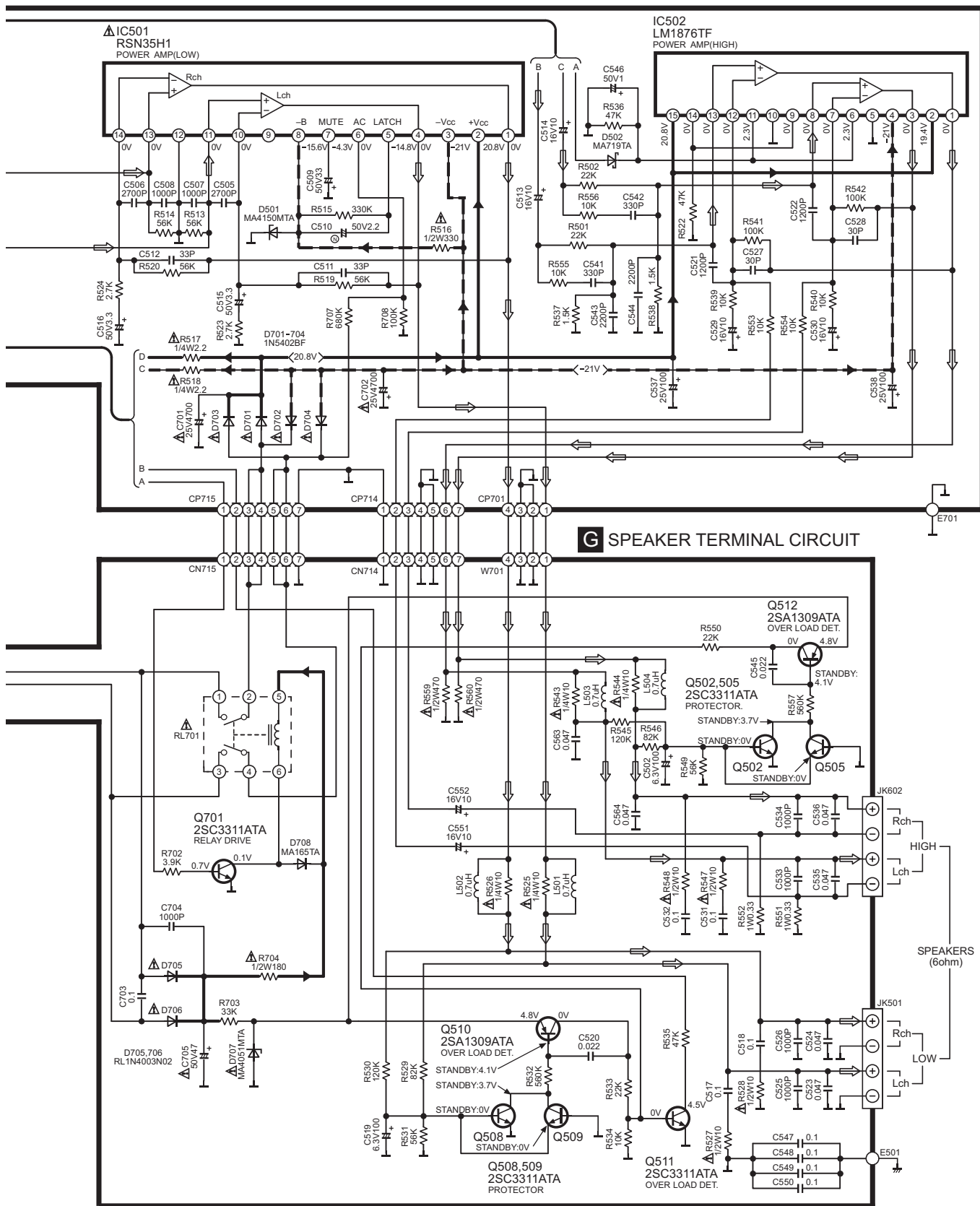
F MAIN CIRCUIT



E POWER TRANSFORMER CIRCUIT

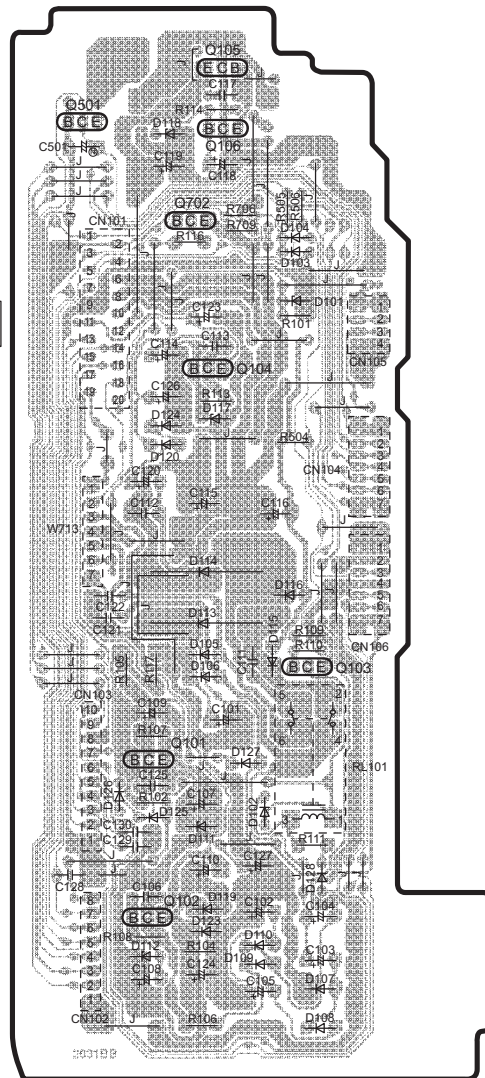
SCHEMATIC DIAGRAM-3

→ : POSITIVE VOLTAGE LINE - → - : NEGATIVE VOLTAGE LINE ⇨ : SOURCE SIGNAL LINE

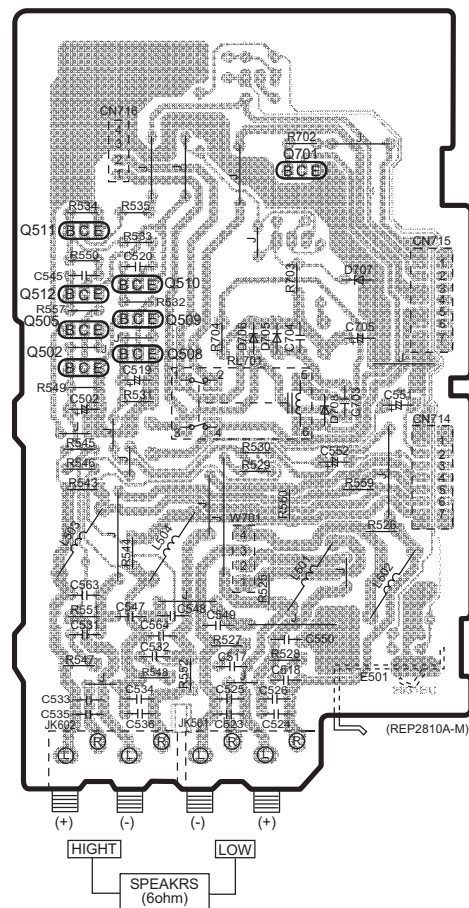




A POWER SUPPLY P.C.B.



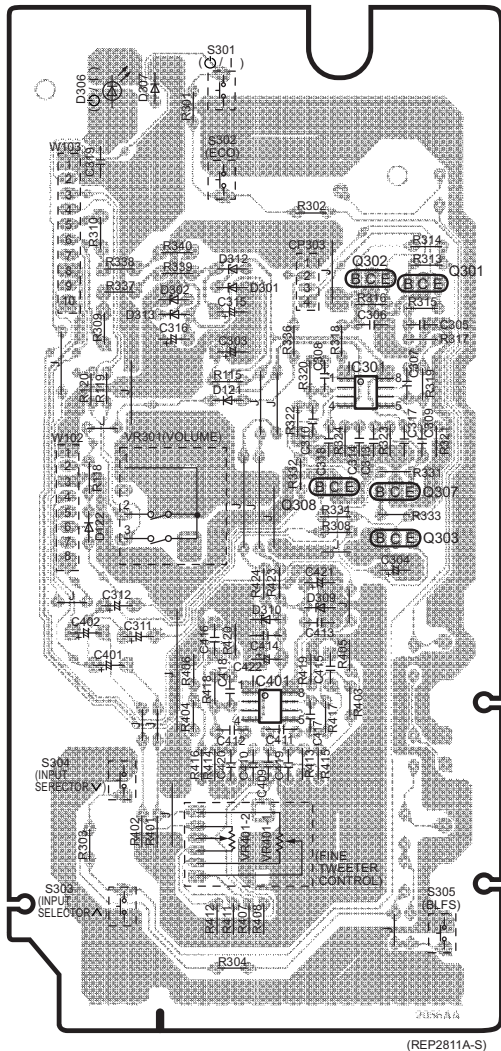
G SPEAKER TERMINAL P.C.B.

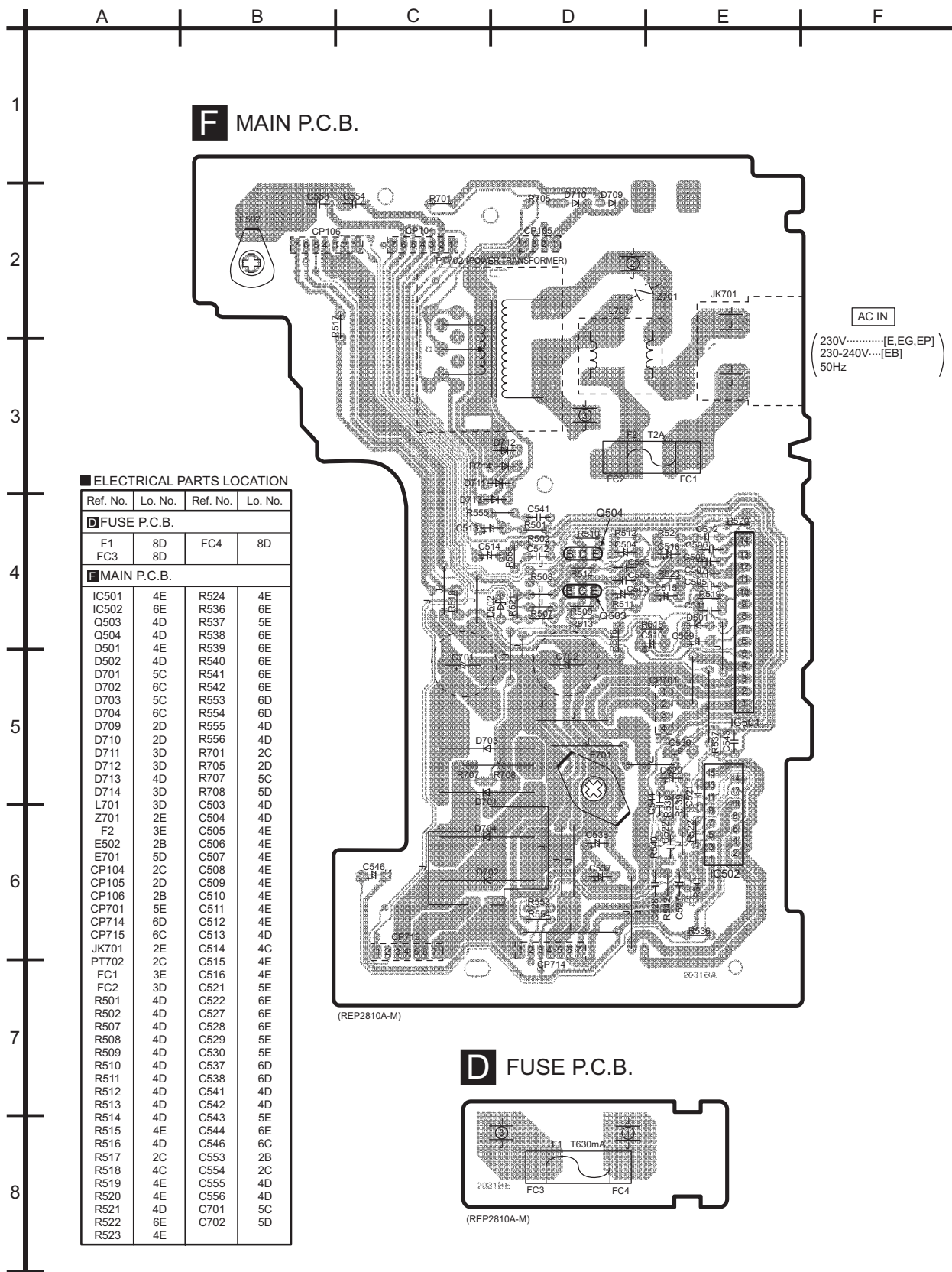


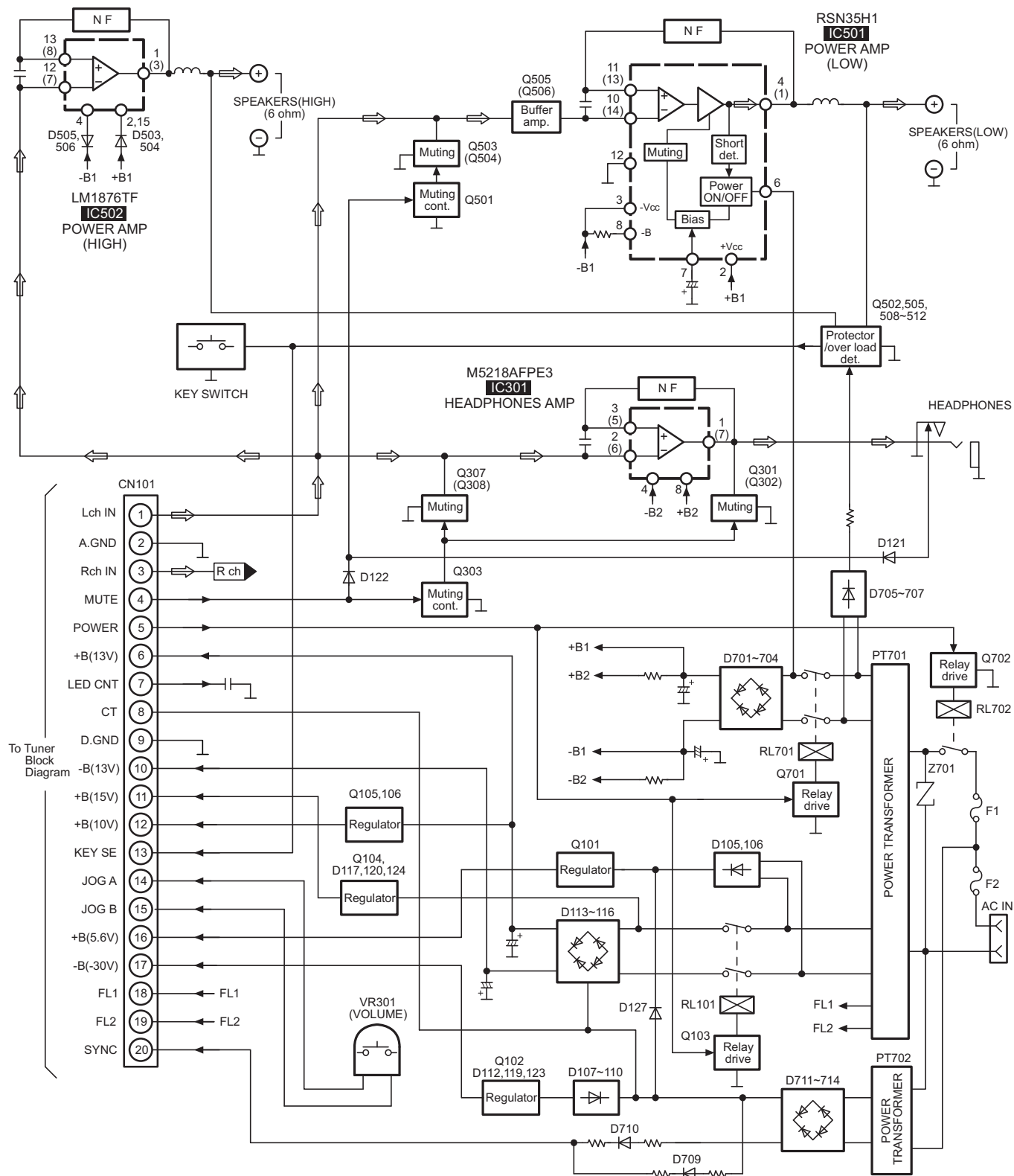
ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A POWER SUPPLY P.C.B.																	
Q101	5B	D104	2C	D115	4C	D128	5C	R104	6C	R117	4B	C106	5B	C117	1C	C128	5B
Q102	5B	D105	4C	D116	4C	RL101	5C	R105	4B	R504	3C	C107	5C	C118	2C	C129	5B
Q103	4C	D106	4C	D117	3C	CN101	2B	R106	6C	R505	2C	C108	6B	C119	2B	C130	5B
Q104	3C	D107	6C	D118	2B	CN102	6B	R107	5B	R506	2C	C109	4B	C120	3B	C501	2B
Q105	1C	D108	6C	D119	5C	CN103	5B	R108	6B	R706	2C	C110	5C	C121	4B		
Q106	2C	D109	6C	D120	3B	CN104	3C	R109	4C	R709	2C	C111	4C	C122	4B		
Q501	2B	D110	6C	D123	6C	CN105	3C	R110	4C	C101	4C	C112	3B	C123	2C		
Q702	2C	D111	5C	D124	3B	CN106	4C	R111	5C	C102	5C	C113	3C	C124	6C		
D101	2C	D112	6B	D125	5B	W713	3B	R113	3C	C103	6C	C114	3B	C125	5B		
D102	5C	D113	4C	D126	5B	R101	2C	R114	1C	C104	5C	C115	3C	C126	3B		
D103	2C	D114	4C	D127	5C	R102	5B	R116	2C	C105	6C	C116	3C	C127	5C		
G SPEAKER TERMINAL P.C.B.																	
Q502	3D	D706	3E	CN715	3F	R528	4E	R544	4E	R557	3D	C519	3E	C534	5E	C552	3F
Q505	3D	D707	2F	CN716	2E	R529	3E	R545	3D	R559	4F	C520	2E	C535	5D	C563	4D
Q508	3E	D708	3F	W701	4E	R530	3E	R546	3D	R560	4E	C523	5E	C536	5E	C564	4E
Q509	3E	L501	4F	JK501	5E	R531	3E	R547	4D	R702	2F	C524	5E	C545	2D	C703	3F
Q510	3E	L502	4F	JK502	5D	R532	3E	R548	4E	R703	2F	C525	5E	C547	4E	C704	3F
Q511	2D	L503	4D	E501	4F	R533	2E	R549	3D	R704	3E	C526	5E	C548	4E	C705	3F
Q512	3D	L504	4E	R525	4E	R534	2D	R550	2D	C502	3D	C531	4D	C549	4E		
Q701	2F	RL701	3E	R526	4F	R535	2E	R551	4D	C517	4E	C532	4E	C550	4E		
D705	3E	CN714	3F	R527	4E	R543	4D	R552	4E	C518	4E	C533	5D	C551	3F		

B OPERATION P.C.B.

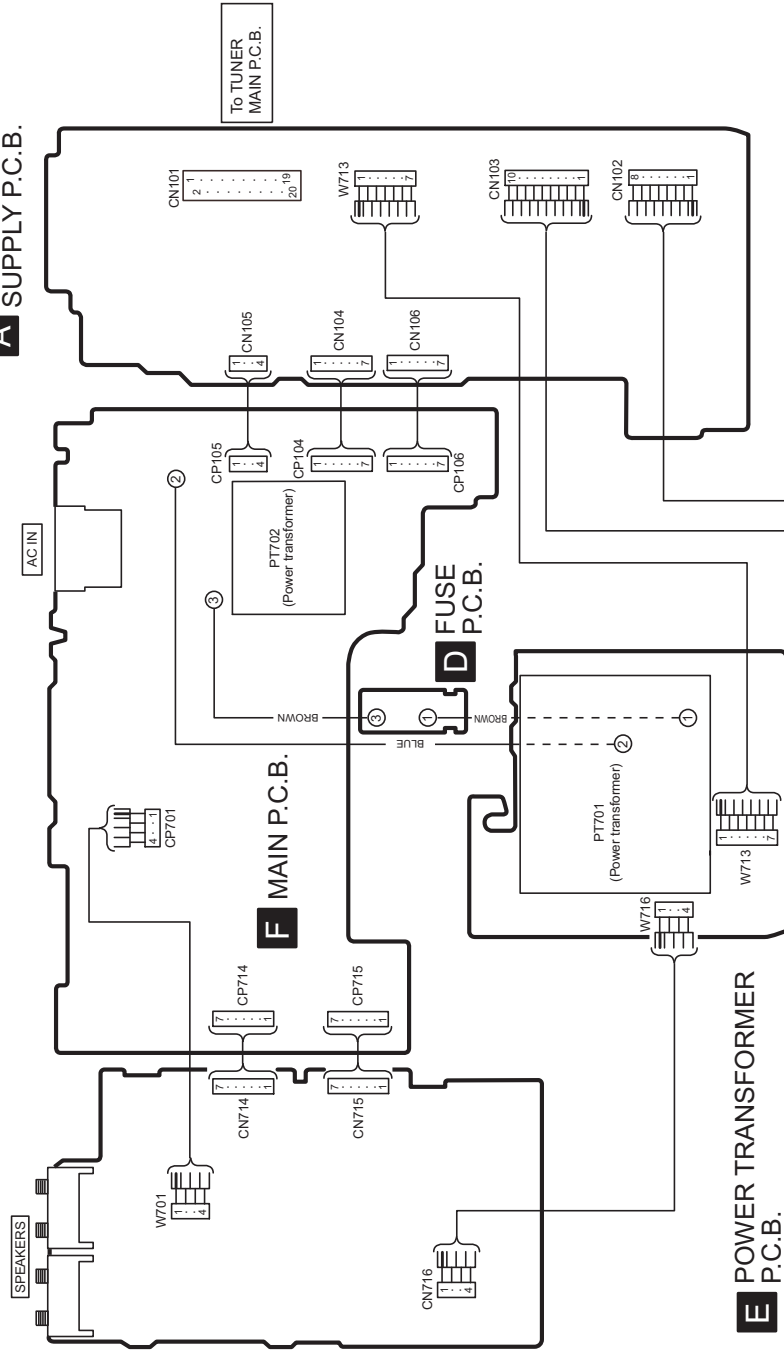




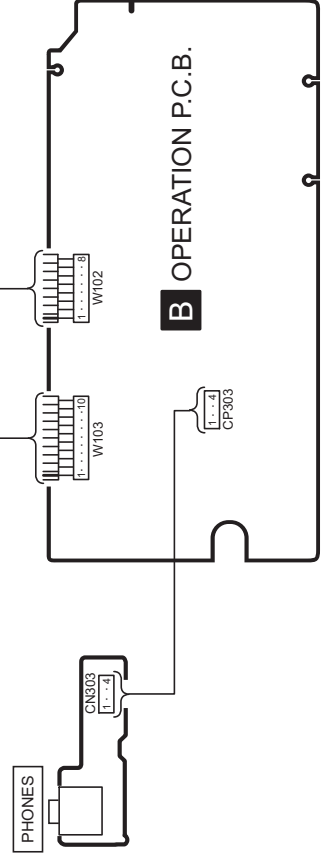


Notes
 ● Signal line ⇒ : Source signal
 ● () indicates pin No. Right channel.

G SPEAKER
TERMINAL P.C.B.



C HP. JACK P.C.B.



12. Replacement Parts List

Notes:

*** Important safety notice:**

Components identified by  mark have special characteristics important for safety. / Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. / When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

* The parenthesized indications in the Remarks columns specify the areas. / Parts without these indications can be used for all areas.

* Remote Control Ass'y: Supply period for three years from terminal of production.

* Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF), F=Farads (F)

* Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM), 1M=1,000K (OHM)

* "<IA>, <IB>, <IC>, <ID>, <IE>" marks in Remarks indicate language of instruction manual.

[<IA>: Germany/Italian/French, <IB>: Dutch/Danish, <IC>: English/ Spanish, <ID>: English, <IE>: Czeco/Polish]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
<u>1</u>	RHD30073-K	SCREW	4	
<u>2</u>	RKM0397-S	CABINET	1	
<u>3</u>	XTBS3+10JFZ1	SCREW	1	
<u>4</u>	XTB3+8JFZ	SCREW	3	
<u>5</u>	RGH0154-K	NAME PLATE	1	(E)(EG)
5	RGH0154A-K	NAME PLATE	1	(EB)
5	RGH0154F-K	NAME PLATE	1	(EP)
<u>6</u>	RGW0319-S	KNOB VOLUME	1	
<u>7</u>	RKA0076-N1	FOOT	4	
<u>7-1</u>	RKA0083-K	CUSHION	4	
<u>8</u>	XTB3+6G	SCREW	4	
<u>9</u>	RFKGEHD501EN	FRONT PANEL ASS'Y	1	
<u>10</u>	RGK1140-N	SIDE ORNAMENT(L)	1	
<u>11</u>	RGK1141-N	SIDE ORNAMENT(R)	1	
<u>12</u>	RGK0815A-N	VOLUME ORNAMENT	1	
<u>13</u>	RGU1750-S	BUTTON	1	
<u>15</u>	RHD26016	SCREW	1	
<u>16</u>	RHN90001	NUT	2	
<u>17</u>	XTBS26+8J	SCREW	5	
<u>18</u>	XTBS3+8JFZ1	SCREW	12	
<u>19</u>	XTB3+12FFZ	SCREW	1	
<u>20</u>	XTB3+20JFZ	SCREW	2	
<u>21</u>	XTW3+15T	SCREW	3	
<u>22</u>	REX0962	FLAT CABLE(20P)	1	
<u>23</u>	RGK1148-M	SIDE PANEL(L)	1	
<u>24</u>	RGK1149-M	SIDE PANEL(R)	1	
<u>25</u>	RGK1147-N	FINE TWEETER ORNAMENT	1	
<u>26</u>	RGW0316-S	KNOB FINE TWEETER	1	
<u>27</u>	RMV0186	BARRIER	1	
<u>28</u>	RHD30081	SCREW	1	
<u>A1</u>	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
<u>A1-1</u>	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
<u>A2</u>	REE0499	SPEAKER CORD	2	
<u>A3</u> 	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)(EP)
<u>A3</u> 	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
A4	RQA0117	WARRANTY CARD	1	(E)(EB)(EG)
A5	RQCB0169	SERVICENTER LIST	1	(E)(EB)(EG)
<u>A6</u>	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)(EP)<ID>
A6	RQT4892-R	INSTRUCTION MANUAL	1	(EP)<IE>
<u>A7</u>	RSA0007	FM INDOOR ANTENNA	1	
<u>A8</u>	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
<u>A10</u> 	SJP9009	AC PLUG ADAPTOR	1	(EB)
<u>A11</u>	REE0853	SPEAKER CORD	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C101 	RCE1EM471BV	25V 470U	1	
C102 	ECA2AM470	100V 47U	1	
C103 	ECA1EM101	25V 100U	1	
C104,05 	ECA1HM470B	50V 47U	2	
C106	ECBT1E103ZF	25V 0.01U	1	
C107	RCE1AKA470BG	10V 47U	1	
C108	RCE1VKA100BG	35V 10U	1	
C109	RCE1AKA470BG	10V 47U	1	
C110	ECEA1VKS470	35V 47U	1	
C111,12	ECKR1H103ZF5	50V 0.01U	2	
C113	ECBT1E103ZF	25V 0.01U	1	
C114	ECA1EM101	25V 100U	1	
C115 	ECA1EM222	25V 2200U	1	
C116 	RCE1EM471BV	25V 470U	1	
C117	ECBT1E103ZF	25V 0.01U	1	
C118,19	RCE1CKA100BG	16V 10U	2	
C120 	ECA1EM101	25V 100U	1	
C121,22	ECBT1E103ZF	25V 0.01U	2	
C123,24	ECEA1EKS4R7	25V 4.7U	2	
C125	ECBT1E103ZF	25V 0.01U	1	
C126	ECA1HM470B	50V 47U	1	
C127 	ECEA1CKS101	16V 100U	1	
C128-30	ECBT1H101KB5	50V 100P	3	
C301,02	ECBT1H473ZF5	50V 0.047U	2	
C303	ECEA1AKS221	6.3V 220U	1	
C304	ECEA0JKS101	6.3V 100U	1	
C305,06	ECBT1E103ZF	25V 0.01U	2	
C307-10	ECBT1H101KB5	50V 100P	4	
C311,12	ECEA1HKS010	50V 1U	2	
C313,14	ECBT1H331KB5	50V 330P	2	
C315,16	ECEA1EKS4R7	25V 4.7U	2	
C317,18	ECBT1E103ZF	25V 0.01U	2	
C319	ECBT1H101KB5	50V 100P	1	
C401,02	ECEA1HKS010	50V 1U	2	
C409,10	ECBT1H561KB5	50V 560P	2	
C411,12	ECBT1H121KB5	50V 120P	2	
C413,14	ECBT1E103ZF	25V 0.01U	2	
C415,16	ECQV1H683JM3	50V 0.068U	2	
C417,18	ECBT1H150JC5	50V 15P	2	
C419,20	ECBT1H561KB5	50V 560P	2	
C421,22	RCE1CKA100BG	16V 10U	2	
C501	ECEA1CKN4R7	16V 4.7U	1	
C502	ECEA0JKS101	6.3V 100U	1	
C503,04	RCE1HKA3R3BG	50V 3.3U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C505,06	ECBT1C272KR5	16V 2700P	2	
C507,08	ECBT1H102KB5	50V 1000P	2	
C509	ECEA1HKA330B	50V 33U	1	
C510	ECEA1HSN2R2	50V 2.2U	1	
C511,12	ECBT1H330J5	50V 33P	2	
C513,14	RCE1CKA100BG	16V 10U	2	
C515,16	RCE1HKA3R3BG	50V 3.3U	2	
C517,18	ECBT1H104ZF5	50V 0.1U	2	
C519	ECEA0JKS101	6.3V 100U	1	
C520	ECBT1E223ZF	25V 0.022U	1	
C521,22	ECBT1C122KR5	16V 1200P	2	
C523,24	ECBT1H473ZF5	50V 0.047U	2	
C525,26	ECBT1H102KB5	50V 1000P	2	
C527,28	ECBT1H300J5	50V 30P	2	
C529,30	RCE1CKA100BG	16V 10U	2	
C531,32	ECBT1H104ZF5	50V 0.1U	2	
C533,34	ECBT1H102KB5	50V 1000P	2	
C535,36	ECBT1H473ZF5	50V 0.047U	2	
C537,38	ECA1EM101	25V 100U	2	
C541,42	ECBT1H331KB5	50V 330P	2	
C543,44	ECBT1C222KR5	16V 2200P	2	
C545	ECBT1E223ZF	25V 0.022U	1	
C546	ECEA1HKS010	50V 1U	1	
C547-50	ECBT1H104ZF5	50V 0.1U	4	
C551,52	RCE1CKA100BG	16V 10U	2	
C553,54	ECBT1H473ZF5	50V 0.047U	2	
C555,56	ECBT1C472KR5	16V 4700P	2	
C563,64	ECBT1H473ZF5	50V 0.047U	2	
C701,02	ECA1EM472	25V 4700U	2	
				
C703	ECQE1104KF3	100V 0.1U	1	
C704	ECKR2H102ZF5	500V 1000P	1	
C705	ECA1HM470B	50V 47U	1	
				
CN101	RJS2A5520-1	CONNECTOR(20P)	1	
CN102	RJS8T6ZA	CONNECTOR(8P)	1	
CN103	RJS10T6ZA	CONNECTOR(10P)	1	
CN104	RJU057W007	CONNECTOR(7P)	1	
CN105	RJU057W004	CONNECTOR(4P)	1	
CN106	RJU057W007	CONNECTOR(7P)	1	
CN303	RJU057W004	CONNECTOR(4P)	1	
CN701-10	RJS1A1101T1	CONNECTOR(1P)	10	
CN714,15	RJU057W007	CONNECTOR(7P)	2	
CN716	RJS4T6ZA	CONNECTOR(4P)	1	
CP104	RJT057W007-1	CONNECTOR(7P)	1	
CP105	RJT057W004-1	CONNECTOR(4P)	1	
CP106	RJT057W007-1	CONNECTOR(7P)	1	
CP303	RJT057W004-1	CONNECTOR(4P)	1	
CP701	RJS1A6604	CONNECTOR(4P)	1	
CP714,15	RJT057W007-1	CONNECTOR(7P)	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D101	MA4051M	DIODE	1	
D102-04	MA165	DIODE	3	
D105-10 	RL1N4003N02	DIODE	6	
D111 	MA4062M	DIODE	1	
D112 	MA4240H	DIODE	1	
D113,14 	1N5402BF	DIODE	2	
D115,16 	RL1N4003N02	DIODE	2	
D117 	MA4160M	DIODE	1	
D118 	MA4110M	DIODE	1	
D119,20 	RL1N4003N02	DIODE	2	
D121,22	MA165	DIODE	2	
D123,24 	RL1N4003N02	DIODE	2	
D125,26	MA165	DIODE	2	
D127 	RL1N4003N02	DIODE	1	
D128	MA165	DIODE	1	
D301,02 	MA4075M	DIODE	2	
D306	SLR-325VC	LED	1	
D307	MA165	DIODE	1	
D309,10 	MA4120M	DIODE	2	
D312,13 	MA4075M	DIODE	2	
D501	MA4150M	DIODE	1	
D502	MA719TA	DIODE	1	
D701-04 	1N5402BF	DIODE	4	
D705,06 	RL1N4003N02	DIODE	2	
D707 	MA4051M	DIODE	1	
D708-10	MA165	DIODE	3	
D711-14 	RL1N4003N02	DIODE	4	
D715	MA165	DIODE	1	
F1 	XBA2C06TB0	FUSE	1	

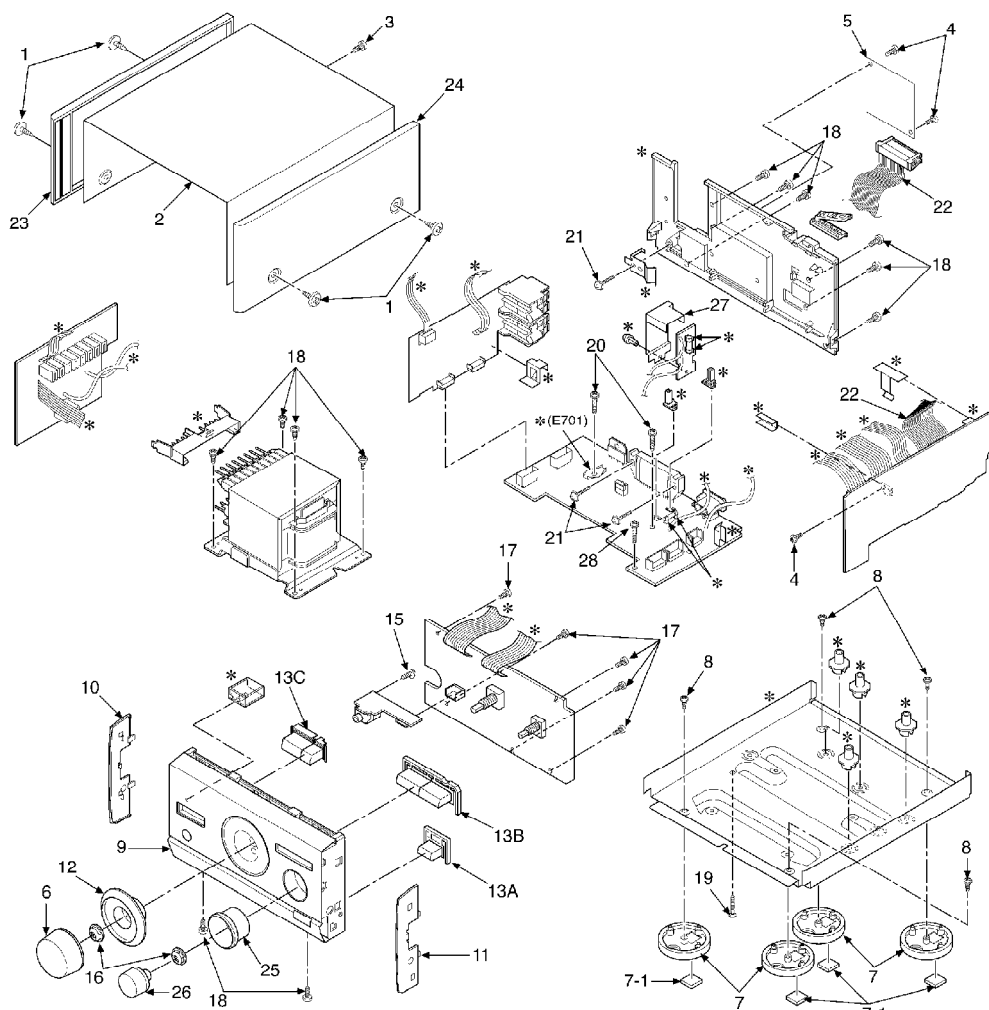
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
F2 	XBA2C20TB0	FUSE	1	
FP701,02 	RSFMB40KT-L	FUSE PROTECTOR	2	
IC301	M5218AFPE3	IC	1	
IC401	M5218AFPE3	IC	1	
IC501 	RSN35H1	IC	1	
IC502	LM1876TF	IC	1	
JK301	RJJ37TN01-C	HEADPHONES	1	
JK501	RJR0054E	SPEAKER	1	
JK602	RJR0054H	4P SPEAKER TERMINAL	1	
JK701 	SJS9236	AC INLET	1	
L501-04	SLQY07G-40	COIL CHOKE	4	
L701 	RLQZ371	COIL LINE FILTER	1	
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4393	PACKING CASE(CD/TUNER)	2	
P2	RPG4394	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P3	RPN1187	CUSHION(CD/TUNER)	2	
P4	RPG4314	PACKING CASE(SYSTEM)	1	(EG)
P4	RPG4315	PACKING CASE(SYSTEM)	1	(EP)
P4	RPG4316	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4317	PACKING CASE(SYSTEM)	1	(EB)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	
PT701 	RTP2M5B016	POWER TRANSFORMER	1	(EB)
PT701 	RTP2M5E014	POWER TRANSFORMER	1	(E)(EP)(EG)
PT702 	RTP1I3E001	POWER TRANSFORMER	1	
Q101 	2SD2374PQAU	TRANSISTOR	1	
Q102 	2SB621A-R	TRANSISTOR	1	
Q103	2SC3311ATA	TRANSISTOR	1	
Q104 	2SC3940AQSTA	TRANSISTOR	1	
Q105 	2SD2374PQAU	TRANSISTOR	1	
Q106 	2SC3327A	TRANSISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q301,02	2SC3327A	TRANSISTOR	2	
Q303	UN4115	TRANSISTOR	1	
Q307,08	2SC3327A	TRANSISTOR	2	
Q501	UN4115	TRANSISTOR	1	
Q502	2SC3311ATA	TRANSISTOR	1	
Q503,04	2SC3327A	TRANSISTOR	2	
Q505	2SC3311ATA	TRANSISTOR	1	
Q508,09	2SC3311ATA	TRANSISTOR	2	
Q510	2SA1309ATA	TRANSISTOR	1	
Q511	2SC3311ATA	TRANSISTOR	1	
Q512	2SA1309ATA	TRANSISTOR	1	
Q701,02	2SC3311ATA	TRANSISTOR	2	
R101	ERDS2FJ103	1/4W 10K	1	
R102	ERDS2FJ331	1/4W 330	1	
R104	ERDS2FJ101	1/4W 100	1	
R105,06 	ERDS2FJ100	1/4W 10	2	
R107	ERDS2FJ222	1/4W 2.2K	1	
R108	ERDS2FJ472	1/4W 4.7K	1	
R109	ERDS2FJ473	1/4W 47K	1	
R110	ERDS2FJ392	1/4W 3.9K	1	
R111 	ERDS1FJ181	1/2W 180	1	
R113	ERDS2FJ392	1/4W 3.9K	1	
R114	ERDS2FJ102	1/4W 1K	1	
R115	ERDS2FJ472	1/4W 4.7K	1	
R116 	ERD25FVJ560T	1/4W 56	1	
R117 	ERD2FCG100	1/4W 10	1	
R118-20	ERDS2FJ102	1/4W 1K	3	
R301	ERDS2FJ821	1/4W 820	1	
R302	ERDS2FJ102	1/4W 1K	1	
R303	ERDS2FJ122	1/4W 1.2K	1	
R304	ERDS2FJ152	1/4W 1.5K	1	
R308	ERDS2FJ102	1/4W 1K	1	
R309,10 	ERD25FVJ560T	1/4W 56	2	
R313,14	ERDS2FJ121	1/4W 120	2	
R315-18	ERDS2FJ470	1/4W 47	4	
R319,20	ERDS2FJ563	1/4W 56K	2	
R321-24	ERDS2FJ123	1/4W 12K	4	
R331,32	ERDS2FJ472	1/4W 4.7K	2	
R333,34	ERDS2FJ121	1/4W 120	2	
R336	ERDS2FJ121	1/4W 120	1	
R337-40 	ERDS2FJ470	1/4W 47	4	
R401,02	ERDS2FJ104	1/4W 100K	2	
R403,04	ERDS2FJ223	1/4W 22K	2	
R405,06	ERDS2FJ182	1/4W 1.8K	2	
R407,08	ERDS2FJ473	1/4W 47K	2	

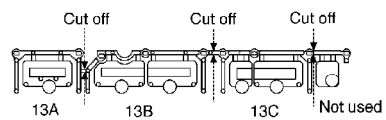
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R411,12	ERDS2FJ223	1/4W 22K	2	
R413-16	ERDS2FJ104	1/4W 100K	4	
R417,18	ERDS2FJ333	1/4W 33K	2	
R419,20	ERDS2FJ152	1/4W 1.5K	2	
R423,24	ERDS2FJ331	1/4W 330	2	
R501,02	ERDS2FJ223	1/4W 22K	2	
R504	ERDS2FJ105	1/4W 1M	1	
R505-08	ERDS2FJ103	1/4W 10K	4	
R509,10	ERDS2FJ104	1/4W 100K	2	
R511,12	ERDS2FJ103	1/4W 10K	2	
R513,14	ERDS2FJ563	1/4W 56K	2	
R515	ERDS2FJ334	1/4W 330K	1	
R516	ERDS1FJ331	1/2W 330	1	
R517,18 	ERDS2FJ2R2	1/4W 2.2	2	
R519,20	ERDS2FJ563	1/4W 56K	2	
R521	ERDS2FJ684	1/4W 680K	1	
R522	ERDS2FJ473	1/4W 47K	1	
R523,24	ERDS2FJ272	1/4W 2.7K	2	
R525,26 	ERDS2FJ100	1/4W 10	2	
R527,28 	ERDS1FJ100	1/2W 10	2	
R529	ERDS2FJ823	1/4W 82K	1	
R530	ERDS2FJ124	1/4W 120K	1	
R531	ERDS2FJ563	1/4W 56K	1	
R532	ERDS2FJ564	1/4W 560K	1	
R533	ERDS2FJ223	1/4W 22K	1	
R534	ERDS2FJ103	1/4W 10K	1	
R535,36	ERDS2FJ473	1/4W 47K	2	
R537,38	ERDS2FJ152	1/4W 1.5K	2	
R539,40	ERDS2FJ103	1/4W 10K	2	
R541,42	ERDS2FJ104	1/4W 100K	2	
R543,44 	ERDS2FJ100	1/4W 10	2	
R545	ERDS2FJ124	1/4W 120K	1	
R546	ERDS2FJ823	1/4W 82K	1	
R547,48 	ERDS1FJ100	1/2W 10	2	
R549	ERDS2FJ563	1/4W 56K	1	
R550	ERDS2FJ223	1/4W 22K	1	
R551,52	ERX1SJ33	1W 0.33	2	
R553-56	ERDS2FJ103	1/4W 10K	4	
R557	ERDS2FJ564	1/4W 560K	1	
R559,60 	ERDS1FJ471	1/2W 470	2	
R701	ERDS2FJ102	1/4W 1K	1	
R702	ERDS2FJ392	1/4W 3.9K	1	
R703	ERDS2FJ333	1/4W 33K	1	
R704 	ERDS1FJ181	1/2W 180	1	
R705	ERDS2FJ102	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R706	ERDS2FJ392	1/4W 3.9K	1	
R707	ERDS2FJ684	1/4W 680K	1	
R708	ERDS2FJ104	1/4W 100K	1	
R709	ERDS2FJ473	1/4W 47K	1	
RL101 	RSY0017M-0	RELAY	1	
RL701 	RSY0017M-0	RELAY	1	
RL702 	RSY0040M-0	RELAY	1	
S301-05	EVQ21405R	SW PUSH	5	
VR301	EVQVBXFK124B	V.R. VOLUME	1	
VR401	EVJY91F04B54	V.R. FINE TWEETER CONT.	1	
Z701 	ERZV10V511CS	COMPONENT COMBINATION	1	

13. Cabinet Parts Location

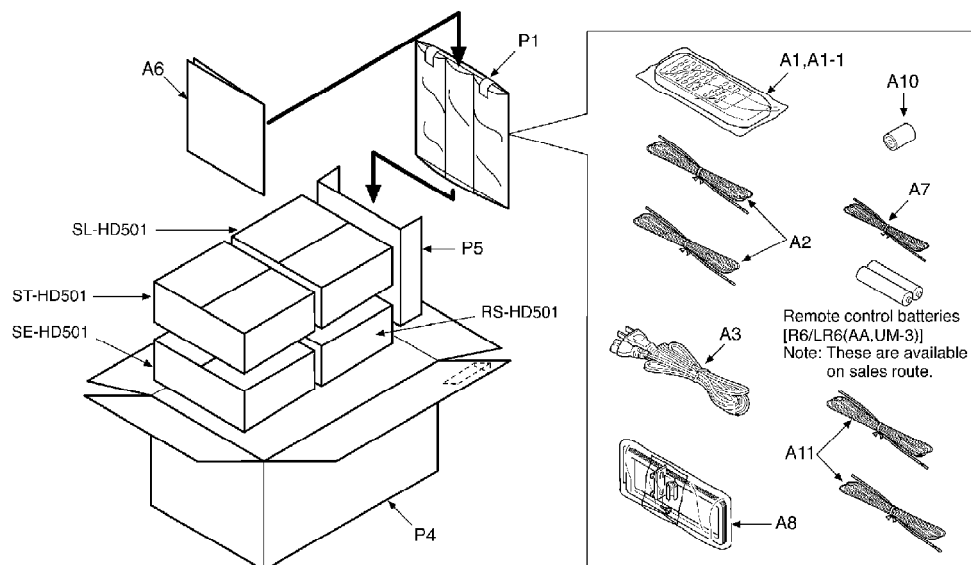
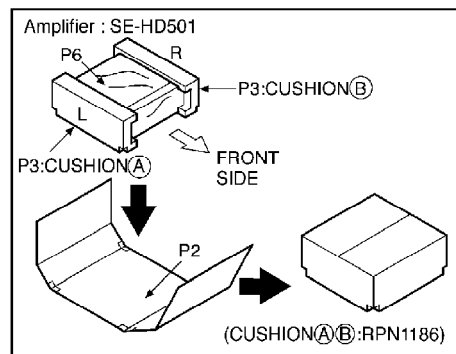
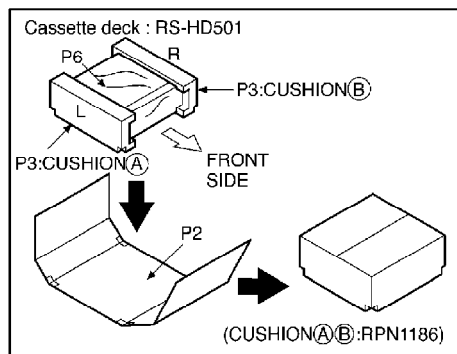
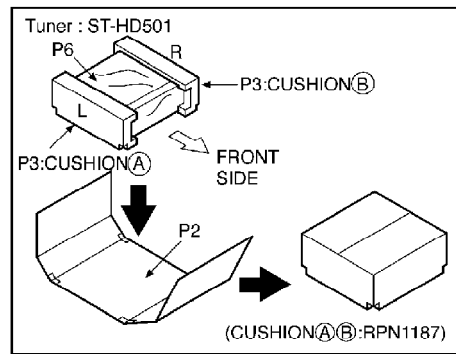
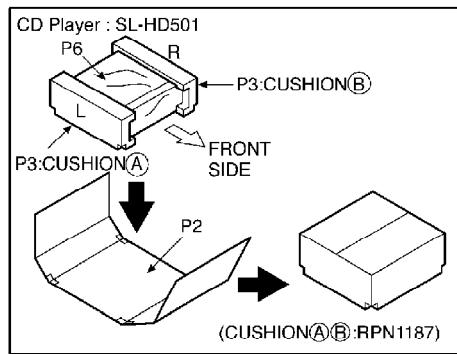


Note: We do not supply those items of parts marked *.



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30073-K	SCREW	4	
2	RKM0397-S	CABINET	1	
3	XTBS3+10JFZ1	SCREW	1	
4	XTB3+8JFZ	SCREW	3	
5	RGH0154-K	NAME PLATE	1	(E)(EG)
5	RGH0154A-K	NAME PLATE	1	(EB)
5	RGH0154F-K	NAME PLATE	1	(EP)
6	RGW0319-S	KNOB VOLUME	1	
7	RKA0076-N1	FOOT	4	
7-1	RKA0083-K	CUSHION	4	
8	XTB3+6G	SCREW	4	
9	RFKGEHD501EN	FRONT PANEL ASS'Y	1	
10	RGK1140-N	SIDE ORNAMENT(L)	1	
11	RGK1141-N	SIDE ORNAMENT(R)	1	
12	RGK0815A-N	VOLUME ORNAMENT	1	
13	RGU1750-S	BUTTON	1	
15	RHD26016	SCREW	1	
16	RHN90001	NUT	2	
17	XTBS26+8J	SCREW	5	
18	XTBS3+8JFZ1	SCREW	12	
19	XTB3+12FFZ	SCREW	1	
20	XTB3+20JFZ	SCREW	2	
21	XTW3+15T	SCREW	3	
22	REX0962	FLAT CABLE(20P)	1	
23	RGK1148-M	SIDE PANEL(L)	1	
24	RGK1149-M	SIDE PANEL(R)	1	
25	RGK1147-N	FINE TWEETER ORNAMENT	1	
26	RGW0316-S	KNOB FINE TWEETER	1	
27	RMV0186	BARRIER	1	
28	RHD30081	SCREW	1	

14. Packaging



Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A1	RAK-HDA07WH	REMOTE CONT.TRANSMITTER	1	
A1-1	RKK0123-K	BATT.COVER(REMOTE CONT.)	1	
A2	REE0499	SPEAKER CORD	2	
A3 	RJA0019-X	AC POWER SUPPLY CORD	1	(E)(EG)(EP)
A3 	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
A4	RQA0117	WARRANTY CARD	1	(E)(EB)(EG)
A5	RQCB0169	SERVICENTER LIST	1	(E)(EB)(EG)
A6	RQT4888-D	INSTRUCTION MANUAL	1	(EG)<IA>
A6	RQT4889-H	INSTRUCTION MANUAL	1	(EG)<IB>
A6	RQT4890-E	INSTRUCTION MANUAL	1	(E)<IC>
A6	RQT4891-B	INSTRUCTION MANUAL	1	(EB)(EP)<ID>
A6	RQT4892-R	INSTRUCTION MANUAL	1	(EP)<IE>
A7	RSA0007	FM INDOOR ANTENNA	1	
A8	RSA0021	AM LOOP ANTENNA	1	
A9	RQCA0664	QUICK SETUP GUIDE	1	(EB)
A10 	SJP9009	AC PLUG ADAPTOR	1	(EB)
A11	REE0853	SPEAKER CORD	2	
P1	RPF0139	PROTECTION BAG(F.B.)	1	
P2	RPG4393	PACKING CASE(CD/TUNER)	2	
P2	RPG4394	PACKING CASE(AMP./DECK)	2	
P3	RPN1186	CUSHION(AMP./DECK)	2	
P3	RPN1187	CUSHION(CD/TUNER)	2	
P4	RPG4314	PACKING CASE(SYSTEM)	1	(EG)
P4	RPG4315	PACKING CASE(SYSTEM)	1	(EP)
P4	RPG4316	PACKING CASE(SYSTEM)	1	(E)
P4	RPG4317	PACKING CASE(SYSTEM)	1	(EB)
P5	RPQ0771	PAD	1	
P6	SPP740-1	PROTECTION BAG	4	

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